Managing organizational change: application of the Biomatrix theory to the transformation of a non-profit organization

Wigger, Anke

Erstveröffentlichung / Primary Publication
Monographie / monograph

Werkstatt
für Organisations- und
Personalforschung e.V.

Managing organizational change

-

Application of the Biomatrix theory to the transformation of a non-profit organization

Anke Wigger

Berichte der Werkstatt für Organisations- und Personalforschung e.V., ISSN 1615-8261

Die Autorin:

Anke Wigger, MBA studierte Internationales Management an der Universität Flensburg und der Syddansk Universitet. Sie ist freie Mitarbeiterin bei BiomatrixWeb, systemische Organisationsentwicklung und Consulting, und Trainerin für Business und technisches Englisch.
E-mail: a-wigger@foni.net

Berichte der Werkstatt für Organisations- und Personalforschung e.V.

Bericht Nr. 17, Berlin 2008

ISSN 1615-8261

Kontakt zur Werkstatt für Organisations- und Personalforschung e.V.:

Dr. Renate Ortlieb
Südwestkorso 76
12161 Berlin
Tel.: 030/89739919
Fax: 030/89739919

email: Kontakt@Werkstatt-opf.de
Internet: www.werkstatt-opf.de

Acknowledgements

12 months in Cape Town – I managed put my dream into action: getting to know (and learning to love) an exciting, aspiring country and combining it with the case study of my master thesis. It has been a great experience for me but then I am only part of the system that has created it. I would like to express my gratitude to the following people:

Dr. Rita Kellerman, for paving the way for me to come to South Africa and for her unconditional support as a mentor, friend and “mother” – whichever was needed

Prof. Dr. Wenzel Matiaske, for being my supervisor and supporting this thesis project

Dr. Elisabeth Dostal, for her time, input, hospitality and the long constructive discussions

The Cape Town Society for the Blind, staff, management and Board, for welcoming me into their middle and providing a learning environment; Dr. Charles Dickson and Sheriff Hassan in particular for their time and friendship.

The Kellerman-household, for its incredible hospitality and for creating a home away from home and a conducive work environment

Axel, for being what he is: a true friend who listens, argues, supports no matter how many miles apart, for setting up and maintaining THE forum and for doing a great job as my PME

Judith, for being the living proof that rapport can cross time and space

All my friends for keeping in touch

Tim, for his love and support, for making me laugh and for his stake in my future

Thank you!

The problems we have in the world will not be solved by the level of thinking that created them

Albert Einstein

TABLE OF CONTENTS

Appendix

(only available as PDF download at http://www.opf-werkstatt.de)

List of Figures

List of tables

List of Abbreviations

CEO	Chief Executive Officer
CTSB	Cape Town Society for the Blind
HoD	Head of Department
NGO	Non-governmental organization
NPO	Non-profit organization
SBU	Small Business Unit
VIP	Visually Impaired Person

1. Introduction

The Cape Town Society for the Blind (throughout the document also *CTSB* or *the Society*) is a non-profit community based service organization situated in Salt River, Cape Town. In 2006 it looks back upon a 77 year long history of serving and training blind and visually impaired adults in the Western Cape Province of South Africa. It used to provide sheltered employment for blind and visually impaired cane and material weavers.

To render its services the Cape Town Society for the Blind has always been relying on voluntary, public and corporate funding through donations and bequests. While the need and competition for funding have increased, the pool of funds from the state, as well as from the private sector have been constantly decreasing. These income streams are moreover neither sustainable nor predictable. NPOs therefore have to adapt in order to attract funding and must come up with more innovative methods of income generation.

A non-profit organization (NPO; sometimes also referred to as non-governmental organization, NGO) is not set up for the personal gain of its members but to meet specific community needs. To accomplish their mission NPOs frequently pursue deficit-producing activities. According to the South African Non-Profit Organizations Act of 1997 NPOs are defined as “a trust, company or other association of persons:

a. established for a public purpose; and
b. the income and property of which are not distributable to its members or office bearers except as reasonable compensation for services rendered.”

Although legally required to use net earnings entirely to finance further projects and services, this does, however, not prevent them from striving to be financially viable institutions. But that requires management and organizational principles that have traditionally been perceived as belonging to the for-profit sector: strategic and pro-active reaction to the environment, effective organizational design, competitive performance, professional management, new approaches to funding, management of innovation and change (Butler & Wilson 1990; Drucker, 1990).

While profit is tangible and easily quantifiable, the services for which NPOs are founded are usually ideological and intangible. NPOs have a resulting tendency not to define clearly what constitutes performance and results. However, if organizational results are not clearly defined NPOs cannot determine which activities are worthwhile, evaluate organizational performance or effectively channel resources (Drucker 1990).

Changing a non-profit organization from operating in welfare mode to running on business terms and focus on deliverables, such as transforming cost centres into profit centres, is a complex challenge. Staff who have never conducted business with a profit motive need to learn how to be entrepreneurs, creating business opportunities that can be developed for the benefit of those the organization caters for.

This paper will present a design for the change process of the Cape Town Society for the Blind, that is to turn it into a successful business organization with welfare ideals. Mayrhofer (2004) recommends using a grand theory for building practical decisions that are based on sound assumptions including crucial elements related to all the practical elements that practitioners tend to face. “Grand theories offer a basic view of organizational reality” (2004: 179). This thesis is based on an Action Research approach utilizing the Biomatrix theory with the purpose to effect change in the organization. On the other hand, Gustavsen (2001) stated that proponents of Action Research would argue that theory alone cannot create change. He makes the point that there is the need for a more complex interplay between theory and practice.

Gustavsen (2001) sees the relationship between theory and practice as three different but interdependent discourses:

- The discourse on the theory itself
- The discourse on the practice
- The mediating discourse on linking theory and practice

The theoretical perspective will be based on systems thinking, in particular the Biomatrix theory and reflection on other contributions from authors in the field of organizational development. The discourse on the practice will look at the transformation of the Cape Town Society for the Blind as a non-profit organization. The final component of the thesis will reflect on the link between theory and practice by drawing on the theory as part of a process that is focused on what Gustavsen called the “dimensions of social organization that decide the capacity for initiating, developing and putting ideas into effect” (2001: 23). The assumption that there is one best theory will not be made nor will it be tried to verify the Biomatrix theory as *the* grand theory. The aim is to create a social organization in which visually impaired people can thrive and develop.

This paper will explore a practical discourse between the current situation or ‘the present’ (Gratton 2000) and what Dostal (2005), Gharajedaghi (1986) and Ackhoff (1994) would call an ideal design of the future. Gustavsen (2001: 24) stated that “it seems a reasonable assumption that if the social sciences want to help construct the future and not only interpret the past, we can

hardly avoid embarking on a course which will, in important respects, differ from the descriptive analytic tradition". Action Research is often criticized from those coming from an analytical research perspective which is driven by theory. However, a practice driven approach may facilitate posing new questions in new ways.

Organizational change and organizational transformation will be used as synonyms in this text. They differ however from the term 'organizational development', which was common in the 1960s and 1970s. It describes the activities related to achieving changes in particular processes or procedures, to improve teamwork and for the understanding of group dynamics (McMillan 2004). Organizational transformation however describes a more holistic change process that affects the whole organization and its way of thinking. Thus, change, reflection, learning and adapting to changing circumstances become an everyday routine, and the organization becomes a *learning* organization, which Senge (1990) describes as one that continually expands its capacity to create its own future.

Under the systems approach the organization is seen as a living whole. The Cape Town Society for the Blind was founded in 1929 and the years have certainly turned the organization into a product of its history. "It is therefore often essential to explain and understand the background of a real system's historical time in order to explain and understand what it is today – and thereby also its ability to face its future" (Arbnor, Bjerke 1997: 239). The history of CTSB will therefore briefly be described, also to deliver more insight into the circumstances of the case for the reader unfamiliar with the organization. The introductory chapter will then define the research problem and state the objectives and the challenges of the thesis project. The following section is dedicated to a comparison of different systems approaches before the Biomatrix model as the basis of this paper and its core concepts will be explained.

Chapter 2 deals with the methodology provided by the Biomatrix theory for organizational transformation before it proceeds to the adopted method of case study design. Subsequently chapter 3 focuses on the case study of the Cape Town Society for the Blind, utilizing the Biomatrix for the analysis of the current situation and later for the design of the ideal future of the organization. Chapter 4 is set aside for the reflection of the change process the organization has undergone so far before the thesis concludes with chapter 5.

1.1. Creating the context

Back in 1929 a group of Cape Town women founded what was then called the Cape Town Civilian Blind Society, an organization to protect the interest and wellbeing of the blind within the Cape Peninsula. They described their mission as such: “Our immediate future is to establish a workshop for blind, whose goods could be made, displayed and sold.” Several depots were opened around Cape Town, all becoming inadequate and too small as the Society expanded its service profile. In 1935, in response to requests from the blind for employment opportunities, the organization moved to its present location. Because of its structural design and layout this was found to be an ideal venue for a sheltered workshop environment. From these premises blind and partially sighted people have manufactured cane furniture, other cane products, hand woven material and have done furniture repairs.

In 1992 the Society expanded its operations by opening the Phambili workshop in Khayelitsha, the biggest black township in Cape Town. 32 VIPs were employed at this satellite centre. This marked a significant shift in the Society’s relationship with VIPs in the black communities. However, due to continued losses, the workshop was closed again in 1994. The same year saw the Society adopt a new corporate image and logo together with the name change to Cape Town Society for the Blind. In response to an obvious need the Phambili workshop was reopened on January 1995, operating as a separate cost centre.

Up until 1997 between 80 and 150 VIPs were employed by the CTSB in sheltered employment[1]. Under this system VIPs were employed as cane weavers with normal working hours. It was in the responsibility of the Society to supply raw material and to make work available. A supervisor would assist with quality control and the finished products sold were in the showroom on the premises. The VIPs received a fixed salary. If that exceeded a certain amount a percentage would be deducted from the disability grant of the workers; some did not even qualify at all for the grant due to their earnings. As employees of the Society the VIPs were covered by the WCA (Workmen’s Compensation Act), the UIF (Unemployment Insurance Fund) and the Providence Fund (pension fund). The objective of running this sheltered employment workshops was to create employment, which was on the one hand subsidized by the Department of Social Services and the Department of Labour and, on the other hand, gave meaning in life and created a sense

[1] According to the UNESCO IBE Education Thesaurus sheltered employment is “special employment for handicapped people or those who are unable to take employment on the open market”
http://www.ibe.unesco.org/International/DocServices/Thesaurus/00000620.htm

of belonging for the VIPs. Regarding the work itself, no responsibility was taken for the products and no opportunity for growth was given.

The financial history of the Society shows that its operations have always been loss making and subsidized by the government, donations, bequests and to a lesser extent fund-raising. By 1997 however the losses had sharply increased to the extent that the continued survival of the Society was uncertain and in response a major restructuring of the organization was effected (see also chapter 1.2 *Problem definition*). This restructuring also changed the approach of the Society: from caring for the blind to empowering them. Sheltered employment was scrapped and a strategy of independent employment in the form of cottage industries adopted.

In June 1997, all VIPs doing cane and material weaving were retrenched as the first step in the process. They were trained in business skills and instituted as Small Business Units (SBUs) over the following months. As a result a general entry-exit process was introduced in which blind and visually impaired people are trained in craft activities. The aim is to provide VIPs with entrepreneurial skills and the opportunity to become independent and financially self-sufficient citizens. The objective changed from ensuring employment with a small income into building capacity and skills so VIPs could run their own business and be instrumental for their own income.

Today the SBUs working from the Society's premises in Cape Town and from satellite centres around the Cape Peninsula are the suppliers of CTSB providing the organization with products. At the same time CTSB provides logistical support in terms of raw material purchasing, final product finishing (woodwork, welding and spray-painting) as well as marketing and distribution through its showroom and outlets.

Since its inception the Society has grown, expanded its facilities and changed its focus to that of a training centre for adult blind and partially sighted people in the Western Cape Province. Training courses were established that would help VIPs to become independent and financially self-sufficient citizens via opening their own business or employment in the open labour market. Funding was granted from the National Lottery to turn the existing premises into a training centre that currently offers the following courses:

- World of Work
- Life Skills
- Computer Literacy Training
- Start your own Business/Grow your own Business
- Cane Weaving
- Cane Repair (Recaning)
- Material Weaving
- Detergent Making
- Candle Making

Moreover there are plans are under way to turn the existing premises into a craft market from which VIPs and other disabled people can trade.

Organizational structure

A **Board of Management** has ultimate responsibility for the CTSB. It is comprised of volunteers who are all in full-time employment elsewhere. They are nominated by the members of the Society and elected at the Annual General Meeting (AGM) for a term of three years. Board members are selected for their business and leadership skills as they form a resource of skills and knowledge to the organization. As a rule the Board does not get involved in the day-to-day running of the Society. Drucker (1990) however – and that is the case here - points out that NPO-boards tend to be more actively involved than those in business, and may take on managerial functions in addition to their official governing role. The Board meets quarterly and if necessary in between. According to the constitution the Chief Executive Officer (CEO) and the accountant are also members of the Board. It functions in an overseeing capacity and is involved in setting (and correcting) the strategic course.

The CEO, appointed by and reporting to the Board, is a full-time executive officer with the ultimate responsibility for the management of the operations of the Society. Together with the CEO the Heads of Departments (HODs) comprise the management team of the Society. At present 24 staff members are employed on a permanent basis.

The organization is divided into three functionally based departments: Administration/Finance, TED - Training, Education and Career Development, and Fundraising/Marketing.

The **Administration and Finance Department** ensures financial accountability and reporting on an ongoing basis. It also sees to matters of subsidization from Government Departments, purchasing of raw materials, sales and sales outlets, finished goods and coordination of work contracts with VIPs. At present the HoD of this Department is also the deputy CEO.

Training, Education and Development is responsible for skills assessments and individual career planning. This can lead to different options: referral to rehabilitation, training, placement or self-employment. A Placement Officer assists the prospective entrepreneurs in career planning and training – either at CTSB or other training institutions – and in setting up their own business. She also facilitates placement of VIPs in the open labour market.

The **Development and Marketing Department**, which encompasses fundraising, marketing, awareness and bequest soliciting, forms the backbone of the Society. It is responsible for proposals to possible funders of projects and training, mail appeal to existing and potential donors, awareness campaigns and the hosting of special events. This department ensures the proper co-ordination of fundraising efforts and the nurturing of donors in the community.

1.2. Problem definition

In 1997 the Cape Town Society for the Blind identified the following drivers for a change process

- financial loss
- over production
- costly social service delivery
- lack of sales
- dependency of blind people
- pressure for higher salaries
- social welfare image/orientation

At that time the organization was confronted with a major need to change if it was to survive financially and to continue to provide a service to the blind. A transition process with drastic changes was started by closing down the sheltered employment. Former employees were established as independent small business units (SBUs). This change process was managed successfully, eliminating factors such as over production, costly social service delivery, and partly the dependency of the blind constituents. Some of the small business units became viable entities, and even created competition for CTSB with their cane products. This supports the notion that some of the solutions of the past may become the problems of the future.

The organization managed to facilitate financial survival for itself and to provide leading edge services in cane repair. The earning capacity of several of its constituents increased to make them independent of the Society. However, a distinctive competitive advantage or long term sustainability still evaded the organization. Cheap cane products imported from Asia have created serious competition and, as indicated before, the Society had to compete with its own constituents. Where the Society committed itself to create sustainable employment for some blind people, it now also faced a new reality of a shrinking constituency in need of its services. Yet those who still need the Society are even more desperate than before.

Some of the constituents and staff members are holding on the ‘good old days’, convinced that as CTSB has been around for 77 years the organization must be doing something right. They believe that there is little need for change. This attitude is partly based on conviction, partly on the need to preserve comfort zones that were established over many years. For some blind people there is a general tendency to stay within familiar boundaries which includes following the same route to work and doing what they know they can do well. Then there is the normal resistance to change.

“Systems that lack coordination tend to produce problems in many parts of the system […] Typical problems of such systems are constant “firefighting”; “reinventing the wheel” in different parts of the organization; or repeatedly making the same type of mistakes in different parts of the organization” (Dostal 2005: 432). The stated purpose of CTSB is to **create sustainable wellness for blind and visually impaired people**. Yet by being caught up in dealing with small issues the organization has lost the focus of what it is there for. Small problems transform into new problems due to a lack of governance and structure, and due to inefficiencies. These phenomena can frequently be observed at CTSB and cost the organization a lot of time, money and energy that could be invested into the organization’s core purpose. Instead sub-problems and problem areas like the following – which are as a matter of fact co-produced by the lack of focus on the purpose - take over the day-to-day business, and prevent the organization from performing in its field of expertise.

The following sub-problems are noted:

1) The income of the organization depends largely on government subsidies for employing visually impaired persons (Department of Labour) and for social services rendered to VIPs (Department of Social Services) in addition to donations and sales. However, government subsidies are seen as being beyond the control of the organization and have been decreasing constantly over the past years, creating the need to establish more sustainable income streams.
2) The organization operates in a very competitive environment with regards to the acquisition of funds. Therefore it needs to establish itself as a leader in its field in terms of the quality of services and support it gives. Once-off bequests and donations in the name of charity, which provided some income streams in the past, are dwindling. The need to provide security for family relations seems to surpass the need to be mentioned as a benevolent donor.

3) Funders have become less altruistic and more sophisticated and result-driven. They require professionalism, a measure of sustainability and the demonstration of a worthwhile use of their funds. Donors frequently look for personal benefits such as marketing exposure to promote their social responsibility. This in turn requires active marketing and image management from the organization.

4) The original customer base is mainly limited to those who are already familiar with the organization, due to emotional sentiment and the history of the organization. New business opportunities are limited. Standard products that used to sell well no longer meet fashion trends and quality standards. The "old" customer base is growing older. Outside competition is high due to a lack of understanding customer needs.

New visions, missions and values had been developed, printed, distributed over the past five years – and disappeared. What they left was an identity crisis caused by a suddenly dualistic nature of purpose: to do good and be a welfare organization or to strive as a business. The solution might lie in the middle: the virtuous business.

A virtuous organization pursues creating wellness without self-serving motives such as a positive corporate reputation or fulfilling the prescribed social responsibility. At the same time studies have shown that virtuousness tends to amplify positive outcomes, such as enhancing social capital and organizational performance, while buffering organizations from negative outcomes through the enhancement of resilience, solidarity and preserving social capital. (Cameron 2003)

Cameron (2003) has illustrated the concept of virtuousness by locating it on a continuum.

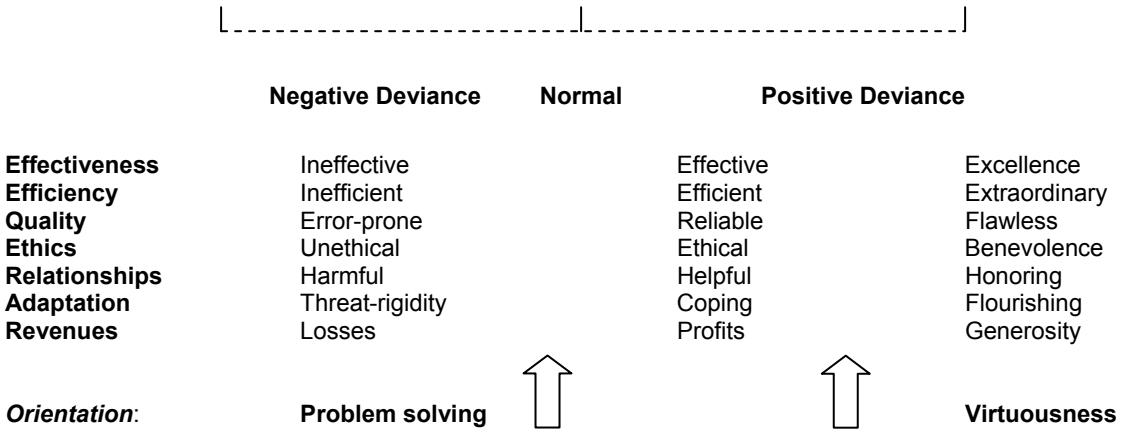


Figure 1: A continuum illustrating positive organizational deviance
Source: Adapted from Cameron, K.S. (2003), pg. 53

At CTSB a contradiction between words and actions can often be found, as well as a discrepancy between the willingness to change and the ability to change. The experience has discouraged staff and created distance and cynicism. “Old habits (and comfort zones!) are hard to break”, the shared ones even more than individual ones. And there is the risk to get all caught up in papers, concepts and moral pleas and never making the crucial step to focus on the original purpose with new ideas and initiatives.

Mintzberg (1993: 43) stated that “planning can easily become political, pitting outsiders in search of control against insiders seeking protection”. He describes planning as a tool to impress senior management. Planning tends to discourage commitment and it creates an illusion of control. CTSB has walked into this trap, where planning created the pretence of change but real action was lacking.

Seligman’s (1975) theory of learned helplessness provides another explanation to the lack of pro-activity in the organization. It states that individuals dealing with events that are uncontrollable, i.e. whether or how they respond does not influence the outcome, will develop a general expectancy of having no influence. This is combined with motivational and cognitive deficits, especially if they have experienced such events. The cognitive deficit implies that the individual does not realize that he/she might be successful to influence an outcome after all. In the case of the Cape Town Society for the Blind a resigned passiveness/motivational deficits can be found throughout the organization with regard to issues such as the receipt of government subsidies and the accreditation of training courses that has failed. Internally this passiveness can be found when it comes to low sales, low product quality and lack of projects that may draw funding. Here the attitude is generally that only “others” can do something. Helplessness has almost become part of the organizational culture.

1.3. Objectives

The brief for this study can be summarized in the guiding research question, namely

How can a change management process be designed that will create a fundamental change at CTSB turning it into a sustainable organization aiming at creating wellness for its constituents?

The idea of the organizational purpose of creating wellness – a holistic idea of well-being looking at the entire human being and his/her development - stems from the concept of organizational virtuousness.

A fundamental change implies a change in the ethos/culture of the system, i.e. a new way of thinking and acting that will not only ensure the future of the organization but also put the purpose of its existence back into the focus of action. What is needed is a ‘second order’ change (McMillan 2004) or double-loop learning (Argyris 1993), that shows effect not only on the surface but affects thinking and behaviour of the people that make up the organization. The research question will be answered based on the application of the Biomatrix theory as a framework. The study aims at providing insight from an outside perspective and guidance for a successful transition for the Board of Management and the CEO of the organization.

1.4. Challenges

When looking at social systems like an organization the expression “the whole is more than the sum of its parts” can easily be applied. Individual departments each make their contribution to the image of an organization, let alone the turnover, and cannot be seen as autonomous entities. The same is true for the people of the organization. The presence of a single individual can cause great synergies (creativity, motivation, goal-orientation) or the malfunctioning of team efforts (aversion, distraction, avoidance). This phenomenon is known as ‘emergent properties’ in systems theory (Dostal 2005).

The variety of problems identified at the Cape Town Society for the Blind shows the complexity of the situation of a rather small organization. This is mainly caused through emergence, i.e. the emergence of sub-problems arising from higher-level problems and vice versa. Strümpfer (1993) has used Langton’s Model (s. Figure 2) to illustrate emergence in complex systems and has applied it to the emergence of maladaptive and favourable organizational properties. It shows the interaction of individual components (people, departments, stakeholders) giving rise to e.g. behavioural patterns as an emergent global structure. This new whole in return influences the interaction of the individual components. Looking at the situation of the Society problems such as lack of finances and missing leadership (and trivial issues such as a badly performing maintenance function) become the focus of attention in the day-to-day business, leading to an organization that is not fulfilling its purpose but is self-centred instead. This in turn leads to non-performance of individuals and departments and other newly emerging issues at a lower level.

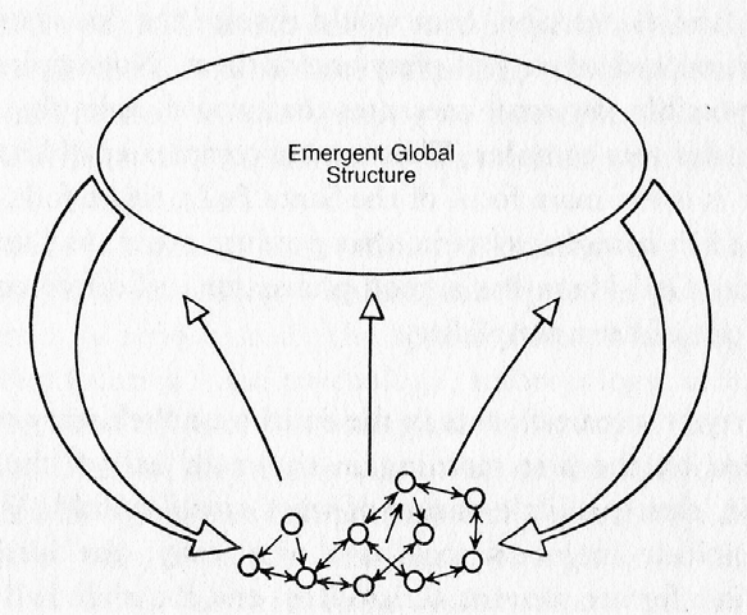


Figure 2: Emergence in complex systems
Source: Langton adapted by Strümpfer (1993), pg. 342

The complexity of any social system and the phenomenon of emergence causes a situation where the system cannot be analyzed in isolation which again constitutes a challenge for the researcher. An additional challenge for the researcher is to maintain the necessary objectivity, i.e. the ability of looking at the organization from an outside perspective, in order to minimize the bias. This is especially difficult in this particular case as I have become very much involved and integrated in the organization and its activities. Bearing this in mind the research design and theory frameworks therefore need to be chosen with care.

1.5. Theoretical Overview of Systems Thinking Approaches

With the shift from the industrial to the information age, i.e. the advent of globalization and new technologies, organizations as well as organizational theories have changed significantly. “Traditional notions of organizations and how to manage them may have suited more stable times, but they do not offer effective solutions to organizations coping with the fast-flowing uncertainties of the modern world” (McMillan 2004: 1). McMillan (2004) shows in her literature review the decline of the scientific paradigm and the mechanistic worldview which are characterized by linear methods, predictable patterns and universally applicable laws.

The following figure shows the characteristics of the respective eras. It illustrates how the perception has changed from a world that is rather stable and in which change is controllable to a world where chaos and complexity are dominant.

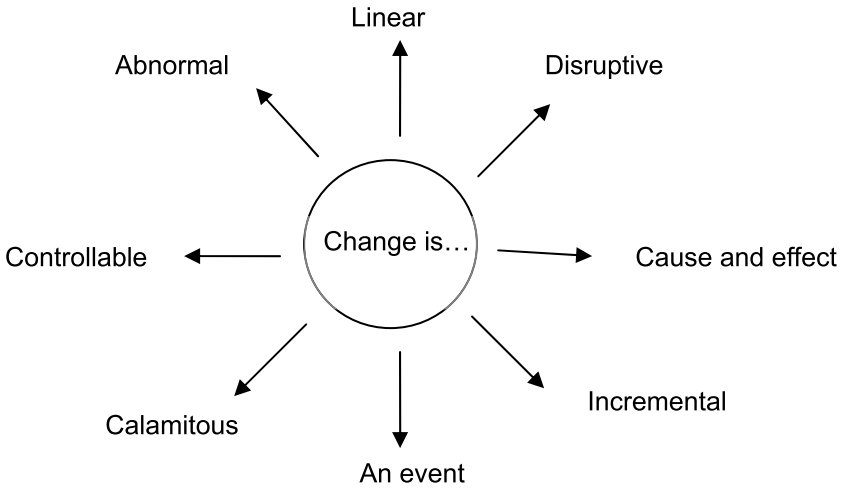


Figure 3: Characteristics of mechanistic worldview
Source: McMillan, E. (2004), pg. 67

McMillan (2004) pointed out the emergence of the complexity paradigm which “sees organizations as dynamic, living systems with self-organizing attributes which are not controllable” (2004: 92) while the mechanistic view is considered an outdated and artificial construct that does not mirror the realities of the information age. The new paradigm is characterized by a holistic approach that considers all aspects of a system, combines thinking and action - instead of separating it into two functions - and looks at synergies. It is systems theory that is concerned with understanding emergence and managing synergies. By managing synergies successfully competitive advantages can be created in organizations. McMillan demonstrates the characteristics of a dynamic worldview as depicted in figure 4 below.

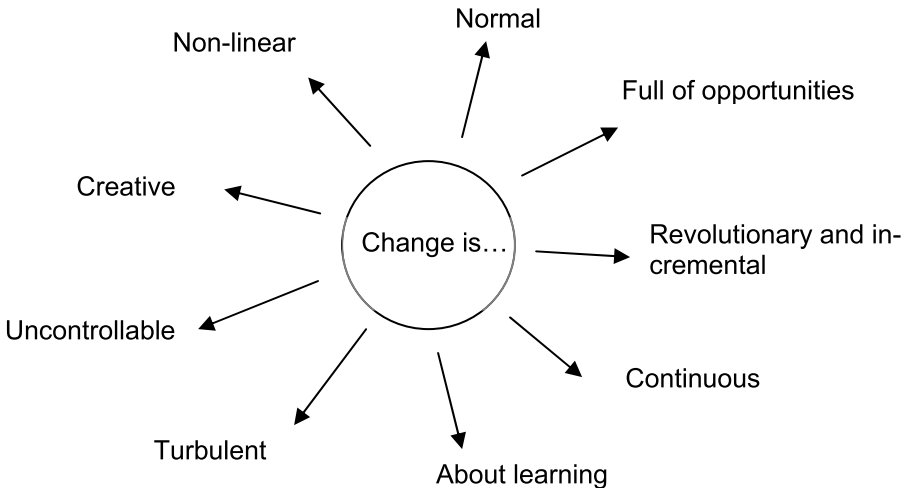


Figure 4: Characteristics of dynamic worldview
Source: McMillan, E. (2004), pg. 67

New approaches in management literature show this illustrated shift in views of change. Nevertheless a vast number of organizations still work with the mindset of the industrial age preventing them from success in these turbulent times. New ways of thinking and acting are required and new approaches have been developed to empower organizations to deal with the demands of the complexity of the information age.

The following table shows a selection of ideas and theories of the traditional (mechanistic/linear; figure 3) and the new (dynamic/contextual; figure 4) views on transformation and change processes of the past 100 years. The writings are organized chronologically. This list claims by no means to be complete, neither in terms of authors nor in terms of their writings, but - due to the limited scope of this thesis and the emphasis being on the case study - focuses on what is being viewed by the author as the essence of their contribution to the topic of change management. I am, however, aware that there are other publications (represented in chronological order) that are of no lesser significance such as

Argyris, C. (1985), Strategy, change and defensive routines
Senge et al. (1994), The Fifth Discipline Fieldbook
Stacey (1996), Complexity and Creativity in Organizations
Mintzberg, H., Ahlstrand, B., Lampel, J. (1998). Strategy Safari
Senge et al. (2004), Presence – Human Purpose and the Field of the Future
Gratton (2004), The Democratic Enterprise

A broader review of the major developments of organizational process and the influence of the scientific paradigm on organizations of the past 300 years can be found in McMillan (2004).

Table 1: Overview of mechanistic approaches to change processes*

Mechanistic/linear approach	
Weber	The bureaucratic organization; hierarchical structures, clearly defined roles, policies and procedures prepare the organization for all situations; the future is predictable and can be planned
Taylor	Scientific Management: Productivity can be increased through the application of scientific principles to any task. The roles of managers and workers are clearly divided into organizing and carrying out tasks.
Fayol	Hierarchical, centralized organizational structures, specialized tasks, management's task is supervision, planning and control
Lewin	Change can be started and stopped at will (unfreezing/freezing); systems strive to maintain a steady state

*reviewed by McMillan (2004)

Table 2: Overview of dynamic approaches to change processes

Dynamic/contextual approach	
Morgan (1986), Images of Organization	It is crucial for organizations to build a self-image that is appropriate for the context of which they are part. They must learn to appreciate systemic interdependence and understand the influence of their environment on change and transformation. Change is never unilateral.
Mintzberg and Waters (1989), Of strategies, deliberate and emergent	Strategy formation must hold a balance between deliberate (realized as planned, central direction) and emergent (activities that were not intended, strategic learning) strategies. The latter enables the organization to respond flexibly to an unstable or complex environment that cannot be fully understood.

Handy (1990), The Age of Unreason	Changes are discontinuous and cannot be predicted; new organizational forms emerge: shamrock (three-leafed workforce: core professionals, non-essential contracted out work, flexible labour force), federal (the combination of autonomy and co-operation with the centre providing advice and identity) and triple I (intelligence, information ideas are the core of the business to make value out of knowledge) to best meet the new conditions
Senge (1990), The fifth discipline	The learning organization; creative as well as adaptive learning is the key to a transformation from within. Lifelong learning of individuals and teams, teamwork, reflection and shared visions will enable the organization to cope with the uncertainties of the future.
Stacey (1992), Managing the Unknowable (reviewed by McMillan 2004)	An organization needs three major forms of change to survive: Closed change – plans based on past developments, there is a measure of predictability Contained change – prognosis based on previous events, less understood and predictable Open-ended change – transformation, there are no links between cause and effect, not predictable Management needs to understand how natural systems work.
Argyris (1993), Knowledge for Action	Organizational change is enabled through changing people's action strategies and learning frameworks from single-loop (change behaviour) to double-loop learning (change the master program leading to the behaviour)
Hammer/Champy (1993), Reengineering the corporation	Companies must rethink their underlying rules, what they do and how they do it. Reengineering, i.e. redesigning processes, i.e. the work that people do (not organizational units), means reinventing the organization in order to survive in an ever-changing environment.
Kotter (1995), Leading change	Transformation is a multi-step process that is 70-90% leadership and 10-30% management. The emphasis in the process is on overcoming organizational barriers before new practices can be introduced.
Gratton (2000), Living Strategy	Human resources must be placed at the centre of the business. Organizational transformation complements the transformation of the workforce and of leadership and needs to be linked to an organizational design.

Pascale et al. (2000), Surfing the edge of chaos	Organizations must seek change actively via causing disequilibrium; change must be the organizational way of living. Keeping the organization on the edge of chaos is a precondition for transformation, ultimately leading to a shift in identity
Dostal (2005), Biomatrix – A systems approach to organizational and societal change)	Every organization is influenced on multi-dimensional levels and shaped by seven aspects: environment, ethos, aims, processes, structure, governance, resources. Change can arise from any one aspect and affects all other aspects. A coherent strategy looks at the flow of change through the system and aims at every aspect.

McMillan (2004:70) also reviews Quinn (1989) and Eccles (1993), showing how present linear approaches are to this day. Both are looking at incremental top-down processes where change is planned and carried out sequentially "but this ignores the fact that the world will not stand still and wait while they do it" (McMillan 2004: 70). Most authors however clearly show a new worldview that is aware of a rapidly changing world where small causes can have big effects and where different approaches are needed. One term in organizational literature that represents this new worldview is that of the 'learning organization', which is able to reflect, change and adapt from within in an ongoing process (Senge 1990; Dostal 2005). Previously learning was limited to specific skills development instead of a continuous process. The establishment of the learning organization implies a holistic and systemic approach, meaning that the system as a whole and the emergence of new issues arising from the interaction of co-factors is taken into consideration.

Looking at the ideas and views of the authors mentioned in Table 2 above the most integrative and holistic approach seems to be that of the Biomatrix theory that was developed in South Africa. While other views and models mostly focus on one angle (e.g. processes (Hammer/ Champy), governance (Kotter), image/culture (Morgan)) the Biomatrix provides a theoretical framework that integrates all of the above. It unites a variety of systems concepts in order to meet the demands of the information age for the development of change strategies best. It looks at the organization as a system evolving over time and takes the dynamic environment into consideration.

Contexts and situations in a social system are constantly changing. Change cannot be seen as an "incremental process of adjustment" but rather as a process of constant adjustment (Macmillan 2004: 66 reviewing Duncan et al.). A mechanistic approach in the case of CTSB would be inappropriate in the sense that it would try to freeze the system in order to analyze it. That would

add limited value to an organization in need of change. New knowledge is required in order to act effectively in the given situation. CTSB needs to develop guidelines and action strategies that will prepare it for the challenges of the information age, turning it into a sustainable, flexible, learning organization. There is definitely a need for the research process to be empathic, i.e. it is responsive to emergence and progressively focused (Stake 1995).
Systemic reasoning ('the logic of the problem is not the logic of the solution') proposes the problem-solving approach of the "Ideal system (re)design", where "the new design is based on a new logic, instead of perpetuating the logic of the current system" (Dostal 2005: 423). The Biomatrix theory applies this approach and is therefore seen as a framework that will deal with the challenges appropriately.

1.6. The Biomatrix model

The Biomatrix model is a general systems model that integrates different systems concepts and approaches, such as cybernetics, operations research, systems dynamics, ideal system design, into one coherent framework. The following section provides some background information about the Biomatrix theory and looks at the core concepts that are relevant for this study. If not stated otherwise the information is taken from Dostal (1997, 2005). A number of writings on the Biomatrix theory has amongst others also been published by Jaros and Cloete (1987, 1990, 1994), Dostal and Jaros (1994a, 1994b) and Cloete (1999). The following overview of the theory will focus on its relation to organizations. When referring to a system the term will mostly be used as a synonym for a (business) organization. However, in systems theory (and therefore also in the Biomatrix theory) systems can be anything from a society, the planet, a person, a tree, a bird to a cell.

The essence of systems thinking lies in the phrase "the whole is more than the sum of its parts", which refers to the effect of emergence (cf. chapter 1.4 *Challenges*). This emergence in turn creates hierarchical (not authoritarian) structures as shown in Figure 2. Checkland and Scholes (1990) add another pair of concepts: communication and control, which allow a system (a whole) to adapt and therefore to survive in a changing environment. This "adaptive whole" is the image used in systems thinking. In contrast to traditional scientific method, which tries to create an understanding of the whole by looking at the parts, a systems approach will focus on the interaction of the parts and the emerging properties. It will also look at the system as part of its environment, thereby providing a holistic view, while the traditional approach excludes emergence through e.g. the assumption of ceteris paribus. The systemic approach is by no means a re-

placement of the traditional scientific view but rather an extension of the paradigm yielding a wider understanding of the world, social systems in particular (Dostal 2005).

“The main difference between the Biomatrix model and other general systems models is one of focus rather than substance” (Dostal 1997: 19). General systems models focus in the first place on wholes and the processes of interaction between them. For example Strunk, Schiffinger and Mayrhofer (2004: 484) give the following definition of a system: It is a unit consisting of individual parts, which can be considered units themselves, and there is a relation through interdependencies between these parts. In addition to that a system is a “functionally closed unit, where the interdependencies between the elements in the system are quantitatively stronger and qualitatively more productive than the system’s environment”.

The Biomatrix model focuses on the processes, which are regarded as (activity) systems of their own, and the emergence, which gives rise to larger (entity) systems. The Biomatrix is therefore a process-based systems model as opposed to a structure-based one.

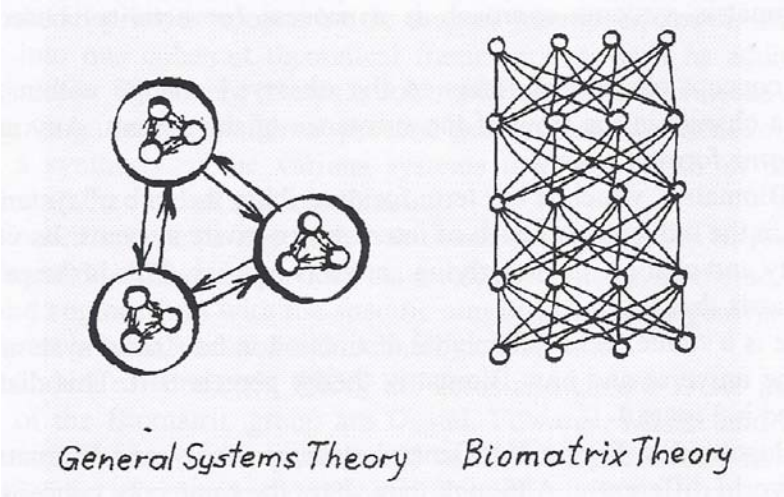


Figure 5: Distinction between general systems theory and Biomatrix theory
Source: Dostal (2005), pg. 4

The term Biomatrix comes from the Greek words *bios* – life and *matrix* – pattern and refers to “the complex web of processes which represents the whole fabric of life on earth” (Dostal 1997: 22). This web consists of interacting sub-webs and systems that are interconnected in a specific

way. These systems all have some organizing principles in common, they share a generic pattern. In order to intervene in a controlled way the interaction (= the processes) as well as the connectedness (= the pattern) need to be managed. Different methods are provided by the Biomatrix approach for this purpose.

1.6.1. Entity and Activity Systems

The Biomatrix uses the image of a web of knots and threads to visualize the idea of the systems that make up the pattern of life, namely entity and activity systems. Entity system are for example an organization, the society or a person. Activity systems refer to the activities of the entity systems, such as a communication system or a metabolism. Looking at the knot (the entity) made up of threads (activity systems) the activity systems form a “stable pattern of interaction that gives rise to structure” (Dostal 2005: 23), with this structure forming an entity.

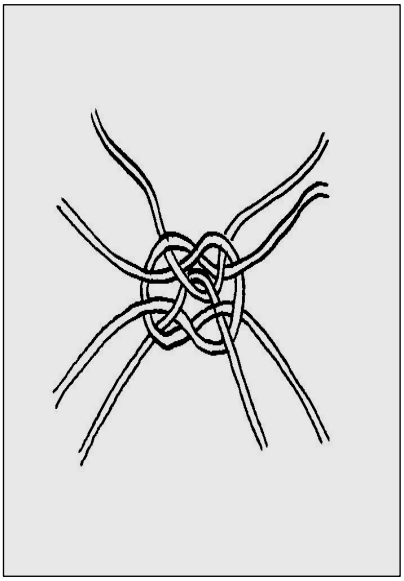


Figure 6: A knot emerging from threads
Source: Dostal (2005), pg. 24

For example, an organization like the Cape Town Society for the Blind consists of several activity systems: 1) creating job opportunities for VIPs, 2) creating a market for goods made by blind people, 3) training for blind people, 4) fundraising, 5) administration etc. All of them together form the entity CTSB. By changing perspective, each one of these activity systems can also become an entity system. Looking at an individual department (an activity system of the organization) it is made up of various activity systems itself, which in turn shape an entity system, namely the department. The risk here is that these entities can develop their own new purpose and focus and lose sight of the entity of the organization. At CTSB both the training and the sales department and their (mal-) performance attract at times so much attention that their purpose (namely training and selling respectively) takes over, when the actual purpose of the whole is to create sustainable wellness for VIPs (through creating job opportunities).

Likewise the organization can be an activity system in an association of related organizations (the Cape Town Society for the Blind is affiliated with the South African National Council for the Blind (SANCB)).

Changing one of the activity systems (= pulling on one of the threads) has an impact on the entity system (the pattern of the knot changes). This is in actual fact the key to changing an entity system, i.e. to focus on changing key-actions and interactions.

Activity systems can have different purposes for the entity system, i.e. they can contribute to the outer or the inner environment or they can be self-directed. The selling of goods manufactured by blind people is directed at the outer environment of CTSB, while fundraising is an inward-directed activity system. Its purpose is to finance the activities of the organization. Administration is a classical example for a self-directed activity system, serving to support the functioning of the organization. The Biomatrix therefore distinguishes between outward-, inward and self-directed activity systems.

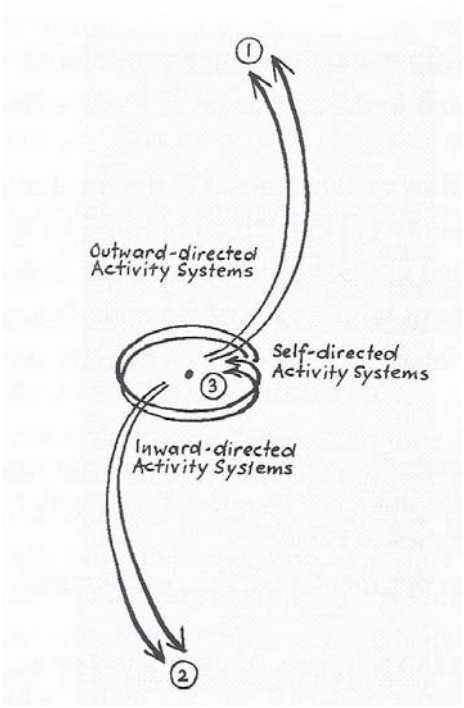


Figure 7: Organizational Structure of entity systems
Source: Dostal (2005). Pg. 86

While sales can be considered a contributing activity system (the purpose is giving/offering), fundraising is a tapping activity system, i.e. it draws from the outer environment. Its purpose is to tap into contributions offered to the organization. The tapping of the activity system by another entity system and the tapping of an activity system of another entity system marks the boundaries between them.

1.6.2. Contextual and Transactional Environment

Looking at the environment of an entity system the Biomatrix distinguishes between two types: the contextual and the transactional environment.

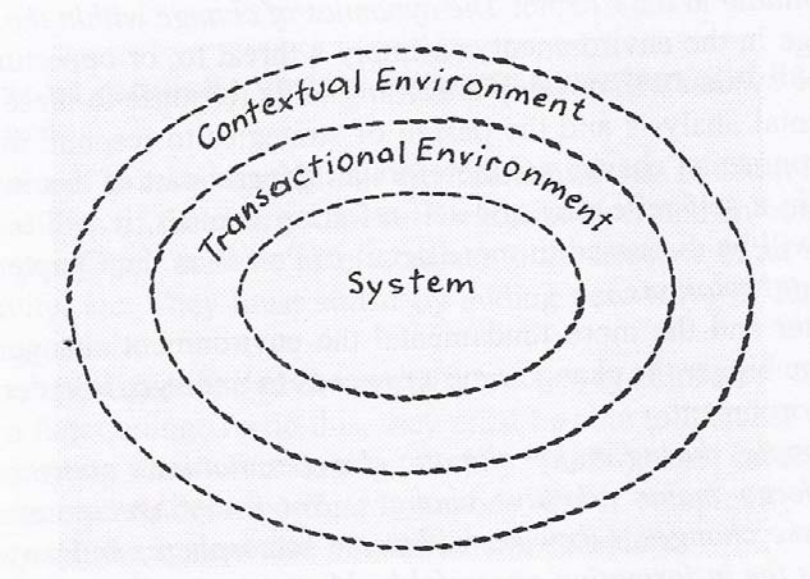


Figure 8: Contextual and transactional environment
Source: Dostal (2005), pg. 55

While a system can directly influence its transactional environment (the knots in the web that it is directly linked with) it has no control over the contextual environment (the knots a system is only indirectly connected with through others).

Systems in the transactional and in the contextual environment make up the stakeholders of the entity. Through tapping (drawing from) and contributing the stakeholders in the transactional environment can be directly influenced. Stakeholders will tap the system if their needs are met or if they are persuaded to do so. The system will tap the stakeholders if it can benefit from it. On the contextual environment on the other hand, the system has no control, e.g. government legislation or economic development. It might be able to influence it through lobbying/cooperating with stakeholders from its transactional environment. In any case a system

needs to be aware of the changes taking place in its contextual environment and their impact in order to strategize appropriately.

The information age has brought rapid changes that impact on systems of all kinds and on all levels. In order to respond to that appropriately thorough and regular environmental scanning – especially in the contextual environment - is necessary to prepare the system for changes. To be a learning organization means ultimately to be able to manage these changes successfully.

1.6.3. Multi-dimensionality of systems

It is the underlying concept of systems theory that all systems are multi-dimensional. The Biomatrix model proposes that the universe consists of three interrelated sub-webs, namely the

- Naturosphere
- Psycho-sociosphere and
- Technosphere.

Every system is unique and characterized by the interrelation of its sub-webs. Changes in one sphere affect the whole system, as they impact on the other spheres. In order to manage change appropriately the multi-dimensionality of the environment has to be taken into consideration.

One method to keep track of changes in the environment is environmental scanning. With this method changes in the environment of the system are identified, bearing in mind the three sub-webs of the Biomatrix.

The sub-webs interact with each other and all contribute to any entity and activity system from different dimensions:

Table 3: The multi-dimensionality of systems

Cf. Dostal (2005), pg. 41f.

Sub-web	Dimensions
Naturosphere	• Ecological (eco-systems; air, water, soil, climate, flora, fauna…) • Biological (physiological and cellular systems, functioning of organisms) • Physical (molecular, atomic, sub-atomic systems)
Psycho-sociosphere	• Psychological (cognitive, emotional, spiritual systems) • Cultural (ethics, aesthetics, knowledge) • Economic (production, exchange of products, finance, use of resources) • Political (governance, laws, control, planning, decision-making, power)
Technosphere	• Artifacts • Technological processing, transporting and storing of matter, energy and information

It is a belief of systems thinking that systems are co-produced by other systems and will therefore hold characteristics from each of the sub-webs and their dimensions. When analyzing a system this needs to be borne in mind. However not every dimension will be relevant in every context.

1.6.4. Seven systems aspects

"According to Biomatrix theory, one can observe seven organizing forces within a system, whereby each organizing force shapes the system in a specific way" (Dostal 2005: 47). The Biomatrix combines the views of various systems thinkers such as Ackhoff and Gharajedaghi amongst others, on which aspects shape a system. It refers to the following seven aspects:Environment

- Ethos
- Aims
- Process
- Structure
- Governance
- Substance (**m**atter, **e**nergy, **i**nformation – mei)

What these aspects comprise will be outlined below.

Environmental aspect

It consists of the contextual and transactional environment, i.e. the environment to which it has to adapt and the one with which it interacts (stakeholder relations) and which it can manage. The complexity of the environment in which a system exists has increased significantly in the information age. Changes and corresponding impacts are therefore frequent and multi-dimensional (cf. chapter 1.6.3), requiring the system to develop the flexibility to respond to them.

Ethos aspect

The ethos is the core of an organization. It describes its culture and values, the guiding principles and beliefs (as opposed to 'ethics' which refers to the distinction between good and bad) and the underlying information according to which the system evolves (its "DNA"). As such it provides meaning to the tasks in an organization. "… employees who perform a function without seeing its value cannot perform according to their best ability nor use their creativity to improve the performance of the task. They can merely follow instructions" (Dostal 2005 : 60). Gratton (2000) refers to the strive for meaning which then creates adaptation and flexibility in the organization. She also talks about the values that are enacted every day in the organization. "It is the energy and inspiration of these goals and visions which drive the whole system" (2000: 99).

The ethos can and should be reflected in the brand, which will give an organization stability and identity in a changing world. One can however distinguish between an actual and an intended ethos. While the intended ethos might be manifested in value statements, the lived ethos - expressed e.g. through activities, outer appearance, staff attitude – might say something different. In that case a system will be full of tension and internal problems in search of its identity.

Dostal (2005), referring to Ackhoff and Gharajedaghi, states that the ethos is also multi-dimensional. She illustrates the concept with the following examples:

Cultural dimension – pursuit of truth, beauty and good
Economic dimension – e.g. the value of plenty in the production of goods and services
Political dimension – guiding interaction by values such as equality and justice
Natural dimension – overarching values of e.g. survival and diversification
Technological dimension – values such as functionality and efficiency

A fundamental change in ethos will create a transformation of the system. Therefore insight into the culture and the underlying values of an organization is the key to transforming it successfully.

Aims aspect

Systems theory states that all systems are purposeful. Aims are the values of the organization (= its ethos) (those of which it is aware) translated into preferred specific outcomes in the future, purpose and meaning. Collins (2001) refers to them as "BHAGs" – big, hairy, audacious goals – while Gratton (2000) describes a collective understanding and vision in the organization, which has the potential to create focus for activities which are both engaging and inspirational.

Aims provide a guideline for the entity as well as for activity systems about the direction and action it should take. "…an aim is a focal point in time and space towards which the system directs its resources and activities" (Dostal 2005: 68). If the aim – which reflects the ethos - is specific, organizations can strategize and plan their long and short term actions accordingly. Hock (1999: 8) emphasizes a similar perspective when he refers to the aspiration of a community in which "the whole and all the parts intend to conduct themselves in pursuit of the purpose". He refers to the ethical and moral content of principles which corresponds to the organizational ethos mentioned by Dostal.

Dostal stated that if there are no aims the system cannot be steered intentionally and purposefully but will tend to repeat its past behaviour patterns, or be re-active rather than pro-active. In a changing environment these "strategies" are unlikely to be successful. This view is also confirmed by Collins (2001) where he refers to the determination of leaders to produce results.

Dostal (personal communication, 26.1.2006) refers the following types of aims as defined in management literature:

Purpose statement – the reason for existence of the organization

Mission – what the organization wants to do in order to achieve certain outcomes for its outer (customers, shareholders etc.) and inner (staff) stakeholders and for itself

Vision – the future ideal the organization is striving for

Objectives – broad and long-term ends that the organization wants to achieve which provide the activity systems with their corresponding objectives for the future

Strategies – the broad and long-term means that are laid out in order to reach the objectives/ends, again providing the activity systems with their function specific strategies and a course of action

Goals – short-term and implementation-oriented ends, the measurable deliverables derived from the long-term objectives

Action steps – short-term and implementation oriented means that describe specific actions

As can be seen from these concepts they are hierarchically organized. A general aim like the purpose of an organization can be broken down into specific, measurable goals for the activity systems down to the individual staff member.

Process aspect

Processes focus on the transformation of matter, energy and information (mei) over a period of time from input to output. If the process is linked to the purpose/an aim and is structured accordingly it becomes an activity system. As opposed to that random processes without a specific aim interrupt the activity system and cause disturbance, ultimately preventing the activity system from achieving its aim.

The process aspect is related to the transformation process described by Checkland and Scholes, that describes the "core purpose of a purposeful activity system" (1990: 33). The input and output are entities. A core process at CTSB is

Blind and visually impaired blind people → trained blind and visually impaired people able to earn a living.

In this transformation process there are

Customers – "victims" or beneficiaries of the transformation process (the blind)

Actors – those who undertake the transformation (trainers)

Transformation process – the conversion of input to output (training)

Weltanschauung – the worldview making the transformation meaningful (blind people can make a valid contribution to society)

Owner(s) – those who can stop the transformation (CTSB)

Environmental constraints – elements outside the system which it takes as given (blind people need special training to become self-sustainable)

(Checkland, Scholes 1990: 35)

The Biomatrix refers to the transformation of mei, which correspond to material, human, technological, information and financial resources in the business context. In the above process resources like the building, training material - such as documents, raw material and technical equipment - the trainer, the trainees and donors' money are transformed.

Value chains, a term coined by Porter in his book "Competitive Advantage – Creating and sustaining superior performance" (1984), illustrate mei flow across systems, where the output of one system becomes the input of another activity system. These can be internal, in the form of subprocesses, i.e. action steps or phases of a purposeful process, as well as external, e.g. an industry supply chain.

An analysis of the flow of substance is the key to optimizing efficiency and quality in the transformation process. The flow of products as well as by-product (wanted and unwanted) needs to be monitored to make efficient use of resources and to identify multi-functional processes which can be shared between activity systems, creating synergies.

Structure aspect

Structure describes regular patterns of the purposeful processes, assuring stability and continuity in the organization. There are three types of structure:

a) the arrangement or relationship of resources (mei) allowing a stable interaction between e.g. material, natural, human and knowledge resources, which in turn leads to a stable structure of the organization.

b) the pattern of mei flow yielding stability in action and interaction, for example the arrangement of work stations determines mei flow as well as the availability of resources which facilitates the quality of mei flow.

c) the regularity in interaction between the activity systems as depicted in the organogram, namely decision-making, planning, accountability etc.

As with the ethos there might be a difference between the intended (as depicted in the organogram) and the actual organizational structure, i.e. how mei flow, planning and decision-making really take place. This discrepancy affects the stability of the system. Instability can also be caused by transformation between old and new until the new order is established.

As discussed earlier entity systems are made up of three types of activity systems, namely outward, inward and self-directed systems, which is considered the generic structure of entity systems. This threefold structure can be transferred into a three-dimensional matrix, providing “the most optimal interaction between the three types of activity systems, as well as optimizing coordination between them and maximizing connectivity with the environment”. (Dostal 2005: 87) The Biomatrix theory sees the matrix organization as the management structure of the information age. It allows for synergies, cross-functional communication and coordination as well as flexibility as opposed to the hierarchical structure of the industrial age.

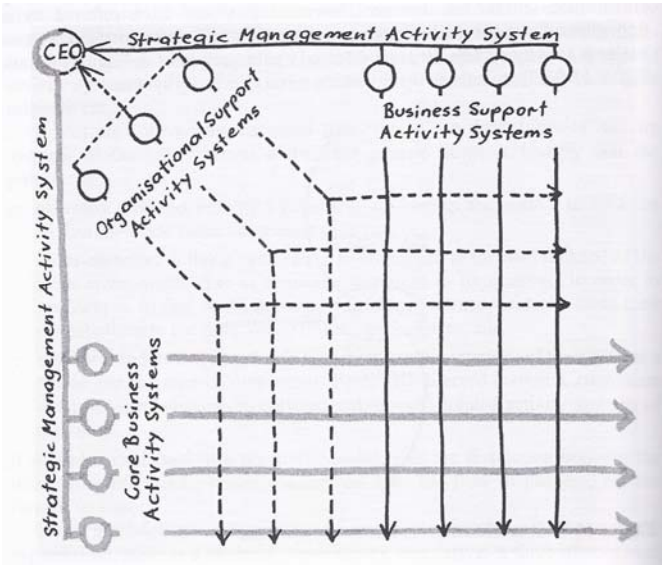


Figure 9: The three-dimensional matrix organization
Source: Dostal (2005), pg. 284

The two-dimensional matrix organization is already widely known. However, it does not distinguish between the inner environment and the self, i.e. no distinction is being made between business support functions (inward-directed activity systems) and organizational support functions (self-directed activity systems). With the introduction of the third dimension/the distinction of the three types of activity systems a structure is introduced that makes the system capable of more complexity and therefore better equipped to meet the demands of the information age.

Governance aspect

Governance is a crucial aspect that refers to the way the system is directed into the future. It is thereby not only influencing the system as a whole but every other individual aspect as well, such as determining the values of the system (ethos), defining aims, regulating processes, intro-

ducing new structures or selecting additional resources (mei). It is also governance that determines how the organization interacts with its environment. At the same time governance is also influenced by different aspects, such as an authoritarian culture (ethos) that is not conducive for collective decision-making, or an IT-system (mei) influencing the way systems operate.

As with the other aspects one can differentiate between the governance of entity and activity systems. Governance of the entity system deals with the overarching aims of the organization, with the performance of the activity systems and their interaction. Governance of the activity systems on the other hand defines specific aims derived from the overarching aims and according to its purpose, i.e. its function in the organization (e.g. sales, fundraising). It also regulates the flow of resources in order to achieve its aims in terms of planning, monitoring and adjusting (performance management).

Governance of an organization is usually a combination of external and self-governance. External governance comes from the environment, e.g. labour legislation or – for the activity system – the management of the organization making decisions and determining the actions of the system from the outside. Governance on the level of the self refers to the decision-making authority, e.g. CEO (entity system) or Head of Department (activity system). According to systems thinking self-governance should outweigh external governance as the system knows most about itself and where adjustment is possible, its stakeholders and their expectations. Self-governance is however always limited by external governance.

There are three different types of governance that need to be balanced: form-maintaining, form-creating and form-destroying. *Form-maintaining governance* is executed through control mechanisms. They make sure that rules and regulations are adhered to and that aims are met. *Form-creating governance* promotes change and development of the system in order to find new and better ways. *Form-destroying governance* will ensure that undesirable behavior such as theft, corruption or discrimination, gets sanctioned and omitted. At the same time governance is intended, intrinsic and emergent. The implementation of planning and the execution of decisions are examples for *intended governance*, where there is active intervention on various levels. *Intrinsic governance* is habitual behavior of the system that has developed over time and is entrenched in the seven aspects of the system. *Emergent governance* is the unpredictable actual governance and change that emerges from the intended and the intrinsic governance.

Governance is closely related to the ethos. Handy (1989) points out that a leader must stand for the vision, be integer and seen to believe in it. “The total pragmatist cannot be a transforming leader” (1989: 107). Dostal (2005) states that when looking at governance in an organizational

context it is also important to differentiate between management and leadership. While management focuses on keeping the system within its current framework (form-maintaining governance), leadership is needed for the system to evolve and for transformation to take place. Pascale (2000) distinguishes between authority and leadership but refers also to Heifetz's distinction between operational/technical and adaptive leadership. Authority or operational leadership "is an entirely appropriate response in conditions of relative equilibrium" (Pascale 2000: 37), i.e. to solve problems that disturb the equilibrium with conventional practice. Parallel to operational problems however an organization will frequently face adaptive challenges as well. Those require (adaptive) leadership that changes the ethos, introduces new aims and can transform the system. It is crucial for the system to recognize the type of challenge, as traditional solutions will not solve adaptive problems.

Substance (matter, energy, information - mei) aspect

"All systems within the Biomatrix are composed of fields of mei which interact with each other across time and space…" (Dostal 2005: 105). A car for example consists of matter (the parts), energy (electricity, manpower) and information (the order in which the parts are assembled). A concept is mainly made up of information (the content), but is kept on paper or the computer (matter), and in order to store and/or express it, energy is needed. The substance of an organization refers to what it is made of: human, knowledge, material, natural, technological and financial resources.

Five different types of substance are distinguished: input substance (m/e/i that is to be processed, e.g. a new trainee), throughput substance (substance that is being processed by the system (the trainee that participates in a course), output substance (the finished product, the VIP equipped with the necessary skills to make a living), acting substance (the components that do the processing; skills, actions, machines) and support substance (those components supporting the activities, e.g. buildings, general infrastructure).

For a system it is important to ensure that matter, energy and information interact effectively and efficiently with each other, that there is coherence and that synergies are created. In an organization this is dealt with through acquisition, distribution, development, maintenance, storage and disposal.

Although these seven aspects occur in activity as well as entity systems, they have a different emphasis.

Ethos: The ethos will essentially be that of the entity system, i.e. the organization as a whole. Activity systems have their own ethos, which is however shaped by the ethos of the entity system.

Aims: The entity system will have overarching multiple aims, defined in the mission and vision or simply the purpose of the organization. The aims of activity systems are defined by these aims, focusing however on more specific outcomes that contribute to the aim of the entity.

Process: The transformation from input to output takes primarily place in the activity systems.

Structure: On the level of the activity system structure describes how the input-output process takes place, whereas it refers to the organizational structure, i.e. the interaction of the activity systems, on the entity system level.

Governance: The activity system has to be regulated in order to achieve its aims effectively, while the governance of the entity system provides the broad framework for the whole organization, guiding the activity systems and their interaction.

Substance: The focus in the activity system is on the flow of matter, energy and information, while the entity system is more concerned with the appropriate distribution of substance between the activity systems so that it is conducive for achieving the aims.

In order for an organization to achieve stability – though not in the sense of reaching an equilibrium (cf. Pascale 2000), but in the sense of operating efficiently and being able to concentrate on changes in its environment – there must be coherence between the aspects, emanating from the ethos in the first place. Changes in some aspects, e.g. modernization to better meet the demands of the information age, will spread through the system and will be followed by changes in the other aspects to a greater or lesser extent.

The key to the transformation of an organization lies in actual fact in the seven systems aspects and their coherence. This will be elaborated on in the next section of methodology.

2. Methodology

I hold, as firmly as St Thomas Aquinas,
that all truths, ancient and modern, are divinely inspired:
but I know by observation and introspection that the instrument
on which the inspiring force plays may be a very faulty one.
— Bernard Shaw (1932)

Banister et al. (1994), writing about psychological research, urged their readers to go beyond positivism and to do research that is “useful and relevant”. A study of this nature involves the questioning of the boundaries between both the inside and outside of the organization, as well as the boundaries of the theoretical perspectives under study.

The aim of this study is to promote learning in the client’s system, not to produce general knowledge. This is in line with Argyris’ approach to produce actionable knowledge. The focus is “on behaviours imbued with meaning by individuals as they interact with others in the world of practice” (Argyris 1993: 1f.). Using a systems approach the object of the study, i.e. the organization, is considered a complex system that is part of a bigger system, with its relations defining it, turning it into a “partly unique case” (Arbnor, Bjerke 1997: 222). The study therefore makes no claim to representativity but focuses on creating a comprehensive understanding of the situation that is possibly transferable to similar systems.

Flood (2001) describes action research as a way of broadening action and deepening research. According to him systems thinking is not an approach to action research; it rather serves as a grounding for it by broadening action and deepening research.

In spite of listing the work of Lewin as a mechanistic approach earlier (see Table 1) it is important to note that Pasmore (2001) refers to Kurt Lewin as one of the earliest proponents of Action Research. Lewin proposed that behaviour is influenced by its environment, thus the context in which it occurs. Pasmore (2001) also related the principles of socio-technical work designs as explained by Emery in *Characteristics of Socio-Technical Systems* in 1959. According to Emery three principles emerged

(1) The best design for a productive system is one in which each part of the system reflects the goals of the overall system.

(2) The parts of the system should be self-managing to the point where they can cope with problems by rearranging their own use of resources.

(3) The members who make up the part of the system should be multi-skilled to allow them to cope with anticipated needs by rearranging themselves around problems or opportunities that might arise.

The second principle, in particular, refers to the process of adaptation to change which had major implications for organizational enquiry and learning (Senge 1990). Pasmore (2001) concluded that the proponents of the socio-technical systems paradigm proved that action research could produce positive and practical social change and lead to advancement in theory. He also states that action research is regularly challenged by supporters of scientific positivism. I recognize that this project may be vulnerable to exactly such criticism. The reason for criticism or the fact that the reader does not see this approach as relevant or useful might simply be based on a different viewpoint of reality or worldview.

CTSB is viewed as a fluctuating complex system, with a history as well as social and personal political issues, where small causes can have large effects and it is impossible to create a ceteris paribus situation (cf. chapter 1.4 *Challenges*). As pointed out by Mintzberg (2004) a frequent mistake made in organizational interventions is to look at business functions separately, instead of focusing on coordination and synthesis. One of the main contributions of the Biomatrix is that it generates cross-functional, contextual and synergistic understanding of the whole organization and its environment. It provides a framework for systemic interventions in order to create a learning organization that can react flexibly to changes in its environment.

Of course, it is important for the action researcher not to become so involved in his/her own theory (cf. the *grand theory* referred to by Mayrhofer, 2004) that he/she becomes what Kemmis (2001: 93) described as a “solution looking for problems” but that the researcher must remain critical of his/her own perspective/theory. Banister et al. (1994) cautions against the action researcher taking too many of their assumptions for granted, thus losing the cutting edge of this approach. Every effort will be made in this project to remain critical and not to make assumptions unless they are cross-checked against the perspective of at least some of the actors or stakeholders in the research process.

2.1. Methodologies for implementation of the Biomatrix theory

The Biomatrix theory provides a practical systemic methodology for change management and organizational transformation. Looking at the problem formulation it becomes obvious that the problems are not isolated within one of the activity systems but are linked throughout the whole

organization. Any intervention therefore needs to look at the entity system and how to create fundamental changes therein. “The most dramatic changes typically involve a major change in ethos (i.e. organisational culture) and hand in hand with it, major changes in the overarching aims of the organisation (e.g. purpose, mission, vision, key strategies and objectives). Such changes lead to a transformation of the organisation.” (Dostal 2005: 391).

The underlying methodology to organizational change that will subsequently be outlined evolves around three core ideas: forces of change along the seven aspects (clockwise and counter-clockwise change), change over time (current vs. ideal future) and problem-solving vs. dissolving.

2.1.1. Forces of change

The seven aspects that have been described previously are also seen as organizational forces. If change occurs in one aspect it affects the other aspects and through their interaction the system develops. This can be intended or emergent. According to the Biomatrix change moves from aspect to aspect in two opposite directions, carried by two forces: one amplifying change and enforcing it, the other one counteracting and trying to retain the status quo in the system. Gratton (2000: 70) describes resistance as an accumulation of “resource commitments” and “institutionalized routines” which create commitment to the status quo. Resistance also comes to the fore as inertia which is locked into policies and procedures.

The change-amplifying force is moving clockwise and represents intended change while the change-counteracting force acts in the counter-clockwise direction as illustrated in the following figure. It wants to preserve the status quo, thereby disabling change. Kotter (1996) refers to the nine sources of complacency that “help” maintain the status quo.

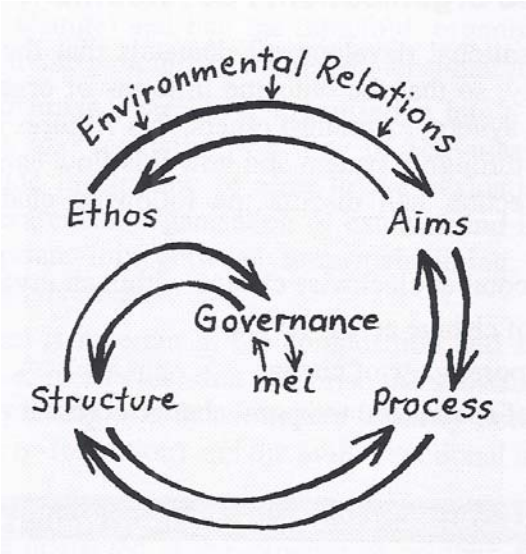


Figure 10: Clockwise and counter-clockwise force of change
Source: Dostal (2005), pg. 404

When (re)designing the system these forces need to be kept in mind and the clockwise sequence followed. Change might be triggered by environmental change forcing the system to adapt (a new legislation, technological developments etc.). This might cause the organization to re-brand or to change towards a learning organization which will in turn demand new aims. This will move through all other aspects. This movement needs to be planned accordingly in order to ensure coherence as each aspect needs to adjust to the previous one. If the aims are changed there might be a conflict with the current ethos, i.e. what the organization believes in. If the culture does not support the aims implementation will be difficult. New aims also demand that the existing processes are adjusted in order to achieve these aims best. These changes must then be reflected in the organizational structure and the activity systems of the organization and ultimately in the governance. It is through governance that the new ethos and aims need to be constantly reinforced and the activity systems and their interaction evaluated. Finally it needs to be assessed whether the resources are still appropriate or whether there needs to be e.g. retraining. That given the aspects will mutually reinforce each other.

As shown in the figure any clockwise change will meet resistance as every system tends to maintain its status quo. This counter clockwise force “represents the momentum that drives the system forward in a habitual manner” (Dostal 2005: 406). This momentum can be found in every single aspect. The clash of the two forces will create turbulence in the system in form of conflict, confusion, resistance and demotivation. Whether the intervention is successful depends on which one of the forces is stronger. If the clockwise force “wins” a new system will emerge out of

the turbulence as a result of the clashing forces. No change can happen without resistance. However, if the resistance to change overrules the intervention conflict will arise and the current system will be reproduced in a different way. This happens if there is no coherence between the aspects on the level of the organization as a whole.

The idea of the two forces implies that any change strategy must be coherent (also in order to minimize conflict) and intervene in every single aspect while always remembering the whole. As the whole is more than the sum of its parts, changing the parts (the aspects) in isolation will not necessarily yield a successful organizational transformation. When it comes to the transformation of an organization leadership is required to facilitate a change towards an ideal future according to a coherent design and cascade this through all the levels of the system (organization, department, team, individual). Special emphasis needs to be put on the new ethos and the understanding of the new aims. In a similar concept Argyris (1993) refers to single- and double-loop learning. While in a process of single-loop learning only the behaviour is changed and change will not persevere, double-loop learning implies a change in the underlying values (= the ethos). According to him the underlying values govern “theories of action that inform actors of the strategies they should use to achieve their intended consequences” (1993: 50).

2.1.2. Change over time

Deriving from futures research the Biomatrix distinguishes two different types of futures: the current and the ideal future. This concept is closely related to the two types of change in the sense that counter clockwise change will drive the organization into its current future while clockwise change will take the system into the ideal future.

The current future is seen as an extension of the past. The system is driven by the momentum of the counter clockwise force that perpetuates the current functioning. The resistance to maintain the status quo prevents the system from major changes. However the organization does not exist in isolation and as the environment changes new demands have to be faced. The more resistance there is, the more tension and instability will occur as the system does not fit into its environment anymore. If the organization is part of a fast moving environment it will need to become a learning organization at some point. Otherwise all its energy will go into re-acting as the system is forced to respond to the changes some way or other in order to survive.

In contrast to that the ideal future is deliberate. It is the vision that the system is striving for which is substantially different to what the current future would be. It is based on the belief that not only

every man, but also every organization is the architect of its own fortune and can proactively change. This change uses the clockwise force and starts with a vision that differs from the current reality. “The ideal future has to be envisioned and then deliberately designed and implemented” (Dostal 2005: 144). A strategy can then be created around this vision. Ideal systems (re)design is a common way in systems thinking to deal with problems. By designing an ideal – which is unattainable by definition – the system does not carry the logic of the current problems into the future. The organization then deals with the solution instead of with the problems that it has already tried to solve in vain with different strategies. It now develops and implements strategies and action steps derived from the ideal via backcasting. By working backwards from the ideal in a timeline it gets connected with the current system without being determined by it. In turn every step will bring the system closer to its ideal future.

The ideal, being an overarching aim, can remain valid even in a changing environment as long as the organization is aware of the changes and revises its short and medium-term aims accordingly. Knowing what it wants to attain, the system can take more controlled actions and try different ways of how to get there. It can also identify opportunities and threats in the environment and react to them.

Gharajedaghi (1986) refers to three basic approaches that are derived from attitudes of planners in organizations.

(1) reactive – the objective is to restore the past
(2) inactive – the objective is to preserve the present
(3) pre-active – the objective is to exhilarate the future

These are ways of coping with change, which is perceived as out of anyone’s control. He describes a fourth approach that denies the assumption of lack of control, which is interactive planning, where the objective is to create the future. He makes the assumption that change itself is subject to some control.

2.1.3. Problem solving vs. dissolving

Working with ideal systems (re)design implies that the focus lies on the solution, i.e. the ideal, not on the problems. This means working with an approach of dissolving problems instead of solving them.

In order to solve a problem one will look for a faulty part in the system that needs to be fixed. The general assumption is that the system itself is working properly and does not need to be changed. However, this neglects emergence and the co-production of problems through the interaction of the system with its environment or of parts within the system. Just as one aspect cannot be changed in isolation it is hardly enough to try and solve a problem that has been identified as the root cause. The solution, i.e. an intervention in one or more parts, will automatically have an effect on other parts of the system and will probably cause problems in other areas. When working with a systems (re)design the approach is not to try and improve the current system or parts of it but to develop strategies derived from the ideal. By implementing these strategies the problems are dissolved.

However it needs to be determined first whether problems can be solved or need to be redesigned/dissolved. Complex organizational problems might have several root causes some of which can be solved while other parts need to be dissolved. Dostal (2005: 431f.) mentions a number of indicators showing the need for systems redesign:

- The system does not fit into its environment anymore and needs to transform itself in order to survive and thrive in the new environment
- The problem within the system is part of a larger field of problems that interact with each other, co-produce each other and span several levels and dimensions in the Biomatrix.
- The problem itself contains a field of interacting problems – i.e. it is riddled with problems that interact and exacerbate on another.
- Problems that persist recur or transform into new problems, in spite of repeated problem solving attempts.
- The problem is an obvious manifestation of a fault in the conceptual reality of the system […] a strategy of an organisation that does not deliver the expected results and needs to be redesigned.
- Systems that lack coordination tend to produce problems in many parts of the system and need to be redesigned. Typical problems of such systems are constant “firefighting; “reinventing the wheel” in different parts of the organization; or repeatedly making the same type of mistakes in different parts of the organization. (This is what Gratton (2000) describes as a situation where the urgent may drive out the important.)
- Discontinuous designs, whereby systems are set up without follow up […]

As will be shown later all of these indicators can be found at the Cape Town Society for the Blind to some extent. An ideal systems redesign of the entity system, i.e. the whole organization therefore seems the most obvious approach to deal with the problems. This would involve a fundamental change of the system, starting with a change in ethos and respective alterations throughout the other aspects putting into effect the counter clockwise force. Ultimately this will lead to the transformation of the organization. The method for the redesign will be presented in the following section.

2.2. Method

The present study utilized a case study design. Merriam (1998) pointed out that, unlike surveys or historical research, a case study does not claim any particular method for data collection or data analysis. By using a case study, the researcher is interested in gaining insight, discovering new facts and interpreting them, rather than in testing specific hypotheses. Merriam refers to what Cronbach called ”interpretation in context” (1998: 29). Stake (1995) argued that case studies emphasize uniqueness and particularization, instead of generalization, and on gaining an understanding of the case itself rather than how it differs from others. He sees the generalizations as part of the knowledge that is produced by conducting a case study.

Case studies are often identified by their disciplinary orientation (Merriam1998). In this case we would identify the case of the CTSB as an action research case study, utilizing knowledge from the Biomatrix framework. In order to adequately analyze the situation and to provide a “workable” solution it is necessary to get a wide and holistic understanding of the setting at CTSB, which forms at the same time the scope of the case study (whereby n=1). The action research orientation implies that outcomes of the research process will influence the whole system.

Banister et al. (1994: 109) referred to researchers’ “equality of status” to those who are to be researched. With this equality comes the right of those who are being researched to have their views seen as central to the research endeavor. In the case of CTSB the views of the blind should therefore be seen as central to this project. Banister et al. (1994) further noted that in action research the action and evaluation must proceed separately but simultaneously.

Banister et al. (1994) describes action research as multi-method research, where the method of data collection is dependent on the information that is required. In the present study, data were comprehensively collected: primary data from structured workshops using the systems method-

ology[2], through focus groups, informal discussions and participant observation, secondary data from internal document analysis, i.e. strategic documents and reports. A main focus was put on the collection of information from stakeholders coming from various angles in search for a pattern and consistency. The type of observation can be characterized as “active participation”, meaning that the researcher is actively involved in the activities after a period of observation until he/she is familiar with the procedures. This increases the potential for subjectivity of the study and complicates it to prevent researcher induced bias. However “subjectivity is not seen as a failing needing to be eliminated but as an essential element of understanding” (Stake 1995: 45). In order to limit the bias I tried to take on a neutral position of a bystander at regular intervals (cf. Key 1997).

The nature of the study entails that no claim for objectivity can be made, which impacts also on a limited reliability and the validity of the study. This, however, does not mean that no external validity is given as any case study has the potential to create unique knowledge. Argyris states that “the skills, competencies, and theories of effective action that we help individuals to use within one organization can also be used in managing these other organizations and networks” (1993: 5). In this case it is the aim to make a contribution to other NPOs on the utilization of business principles and organization development principles for transforming and creating sustainable wellness for their constituency.

The following steps form the subsequent core part of this thesis:

1) Analysis of the current system

   The system CTSB will be analyzed and the particular circumstances described with the help of the Biomatrix framework. This includes a description of the entity and activity systems, stakeholder relations and changes in the environment and an analysis of the seven systems aspects with regard to contents and problems therein.

2) Ideal design

   The findings of the problem analysis and the input of various stakeholders will be integrated into an ideal design. This design will be set up in a clockwise direction of the seven systems aspects. Recommendations with regard to possible action steps will be incorporated.

[2] The first workshop was run with Management and the Board of Management on the principles of the Biomatrix theory with practical application on the organization. Consecutive workshops were run with staff and suppliers of the blind constituency.

3) Implementation design

The implementation design does not form part of this paper. Explanations in this regard are given in chapter 3.3 Notes on the Implementation Design.

3. Ideal redesign of CTSB

The method of ideal design is a commonly used approach among systems thinkers such as Gharajedaghi (1986), Ackhoff (1994) and Checkland and Scholes (1994). The core idea here is related to the above-mentioned Einstein quote "*The problems we have in the world will not be solved by the level of thinking that created them*", namely that systemic problems cannot be solved but should rather be dis-solved. By creating a different level, i.e. the ideal (which is unachievable by definition), the system works with a solution- rather than problem-oriented approach. Strategies are developed on how to approach this new and better system, i.e. the ideal future (cf. chapter 2.1.2 Change over time) . By implementing them the system changes and problems dissolve. This process of redesigning a system in an organizational context is considered an organizational transformation.

The Biomatrix theory distinguishes between four different types of redesign, namely organizational issue redesign, activity system redesign, entity system redesign and web redesign, providing different design frameworks but five generic steps for the redesign. These are

1. Identifying the problem co-factors within the system
2. Brainstorming ideals, strategies and evaluation criteria
3. Compiling a design notebook
4. Creating an ideal design of the system
5. Making an implementation design

This thesis deals with the redesign of an entity system, namely the Cape Town Society for the Blind. The subsequent section is a summary of outcomes of steps 1-4. In chapter 3.1 the analysis of the system will be introduced based on the core concepts of the Biomatrix. This is followed by a summary of steps 1 and 2 along the seven systems aspects. Chapter 3.2 is a summary of steps 3 and 4 focusing on the Ideal Design. Step 5 does not form part of this thesis but needs to be developed from within the system. Recommendations will however be given throughout this chapter.

3.1. Analysis of the current system

We are continually faced with great opportunities,
which are brilliantly disguised as unsolvable problems
- Margret Mead

Using the Biomatrix model the analysis will provide the reader with an in-depth understanding of the system and the interacting problems therein. It is based on information from personal interviews, internal documents and workshops. More detailed data documenting the process can be found in the appendix.

3.1.1. Entity and Activity Systems

The principle of entity and activity systems is explained in section 1.6.1 and has been illustrated with the example of CTSB. As pointed out there, the organization can be both, an entity and an activity system, depending on the perspective. The focus for the analysis and redesign in this section will be on CTSB as an entity system. As such the Cape Town Society for the Blind is a non-profit organization striving to create sustainable wellness for visually impaired people. This is achieved through the combined effort of the individual activity systems, each contributing to the overall performance.

As illustrated in Figure 9 the Biomatrix distinguishes between Core Business Activity Systems, Business Support Activity Systems and Organizational Support Activity Systems. At CTSB the core business activity systems are Training and Career Development, Sales&Production and Repairs. A potential future core business might be the so-called “Six Dots” market. The name, which derives from the six dot cell of a Braille letter, stands for the idea and concept of a market platform from which visually impaired and other disabled people can trade in a safe environment. Funding for this enterprise, which has been planned and brainstormed for a number of years, has already been granted by the National Lottery, the final feasibility study, however, is still outstanding. Should the project be realized it would become the central core business of the Society.

Activity systems supporting these core businesses are functions such as fundraising, marketing, maintenance and procurement. They are inward-directed and provide the resources for the core businesses. While the fundraising and maintenance function are clearly defined and there is a

position assigned to them, the marketing function is rather diffuse. It has often been deplored that there is no marketer to channel the efforts effectively.

The third, self-directed type of activity systems is the organizational support consisting of functions such as administration, finance, IT, reception and human resource management. These ensure a smooth work flow in both core business and business support. Here it is the human resource function that is diffuse and not coordinated by an individual. The need for proper human resource management has also been raised frequently.

All functions are governed by the CEO who brings them together to form the entity system. It is his/her task to provide a regulatory framework and to direct the interaction between the various activity systems. This takes place in the form of weekly staff and Head of Department meetings, where information is shared and where strategic planning should take place. The latter however is frequently dominated by issues of “firefighting”.

3.1.2. Contextual and Transactional Environment

As outlined in chapter 1.6.2 a system is embedded in two different types of environment: the transactional environment, where stakeholders can be directly influenced, and the contextual environment over which the system has no control and to which it needs to adapt. In order to continuously serve the stakeholders effectively – a prerequisite for being a successful NPO – organizations need to be aware of their environment and what the mutual expectations are. Relationships with stakeholders are always mutual, i.e. there is tapping and contributing.

An overview of the Society’s stakeholders can be found in Appendix I. It includes the mutual expectations, as well as information what the systems tap from one another. Strategic planning at CTSB is not yet based on regular environmental scans.

It needs to be mentioned that the boundaries between the contextual and transactional environment can be fuzzy, as indicated by the dashed line, and some stakeholders cannot be clearly assigned to one environment.

The contextual environment of CTSB consists primarily of national authorities such as the receiver of revenue, the Departments of Labour and Social Services and the SETA (Sector Educa-

tion and Training Authorities)[3]. They form the framework in which the Cape Town Society for the Blind operates as a non-profit organization, training and career services provider and retailer (with disabled as suppliers). They determine to a large extent the future movements of the organization.

The most important stakeholders in the transactional environment are the SBUs, the employees, Board of Management and the blind community. They determine the performance of the organization but also its ability to change and move forward. A good relationship and a positive attitude from their side towards the organization are therefore crucial success-factors. However, lack of communication and transparency are frequently deplored.

3.1.3. Multi-dimensionality of the system

The idea of multi-dimensionality of systems has been outlined in chapter 1.6.3. The current system CTSB displays behaviour and qualities from each sphere and is influenced by changes occurring in them. While the focus is primarily on finance in the system, the complexity of multi-dimensionality is often ignored. Yet, just as there is more than just the financial dimension to the organization, there are also several dimensions of changes in the environment, as well as in stakeholder relations. They might not be equally relevant, but looking from just one perspective can be fatal.

Below a range of changes in the sub-webs of the environment are described. The multi-dimensionality of stakeholder relations is outlined in Appendix I.3.

Naturosphere: ecological, biological and physical dimensions

- National and international ecological disasters such as floodings and fires lead to a redistribution of funds from donors. They also disturb the access to raw material.
- The prevalence of eye disorders at any age in the population impacts directly on the size of the clientele: "*Statistics to hand indicate that visual impairment and blindness in all its various forms is threatening to become another pandemic*." – Ebrahim Patel, CEO of Retina South Africa (www.eyesite.co.za/gennews.asp 26.06.06)

[3] Every work sector in South Africa has a SETA. They are responsible for identifying skills requirements, developing and implementing a skills development plan, learnership programmes and quality control in training.

Psycho-sociosphere: psychological, cultural, economic and political dimensions

- The South African National Prevention of Blindness Programme (a component of the WHO initiative) targets the elimination of avoidable blindness in South Africa by the year 2020.[4]
- Awareness campaigns such as "*Dis-abled are able*" - the image of disabled people is moving from 'burden to society' to 'contributing member of society'.
- The Employment Equity Act[5] promotes the employment of people with disabilities.
- Donors request proof of sustainability; funding is based rather on quality than on sympathy.
- Increased labour costs and cost of living make competitive business difficult.
- Trend towards educated, technically skilled workforce instead of unskilled, low wage labour.
- Upgrading of Salt River in view of the 2010 Soccer World Cup in South Africa.
- Intensified international competition.

Technosphere: artifacts, information, technology

- Advanced computer technology for VIPs (Zoomtex, Jaws) makes the labour market more accessible
- Increased availability of assistive devices
- Increased substitution of manual labour with machines -> VIPs can operate machines, at the same time the value of VIPs' skills in cane repair increases

3.1.4. Problem identification

The first step of an ideal system redesign is to identify the problem co-factors within the system. This is done through a specific brainstorming technique called "turning frogs into princes" which was evolved by the Biomatrix team. It is based on the systemic argument that the logic of the problem is not the logic of the solution.

In a first step the problems as each individual sees them are collected. These are called the "frogs" which – in association with the fairy tale – are then transformed into "princes", meaning

[4] According to 2002 figures of the Department of Health the prevalence of blindness in South Africa is 0.75%, with 80% of blindness being avoidable (i.e. either preventable or treatable) by simple and inexpensive means.
[5] The South African Employment Equity Act prohibits discrimination and targets equitable representation of Africans, Coloureds, Indians, women and people with disabilities in the workforce.

an ideal that participants would like to put in place instead (bearing in mind that the ideal can never be achieved). This way the focus is not on solving the problems and their logic but immediately on the ideal. It also involves robust debate and in-depth reflection on the problems. In the next step strategies are designed on how to achieve this ideal.

This technique was applied in workshops with Board and management, staff and SBUs. The result was an impressive list of problems (see Appendix II) that brought a lot of insight but also frustration especially amongst staff.

In the following analysis of the system along the seven systems aspects is based on the problems identified as well as observations and personal interviews.

3.1.5. Seven systems aspects

It is a core idea of the Biomatrix theory that seven forces interact with each other to form a system. For the optimal development of a system each of them needs to be developed and there has to be coherence between them. The concept of the seven aspects will be used to analyze the current system and also the mutual impact before using it as a basis for the ideal design. It has to be mentioned again that the focus will be on the entity system CTSB as an additional analysis of the activity systems would go beyond the scope of this project.

Environment

The relationship between a system and its environment represents the first of the systems aspects. The different types of stakeholders, relations and the changes in the sub-webs of the systems have been listed in the two previous sections and the Appendix respectively.It is unquestioned that a system cannot exist in isolation; it is to a large extent the product of developments in its environment. In order to survive and strive in an environment the system has to be in harmony with it. Environmental change and stakeholder relations need to be managed appropriately. That this is not yet the case was also mentioned in the brainstorming session. It was pointed out that stakeholders were not always familiar with the organization. At the same time there was often no clear understanding of stakeholders and their needs.

In the recent past the Society tended to exhibit reactive rather than proactive behaviour in managing its environment and dealing with developments and changes. Preventative environmental

scans are not common but emerge as ad hoc-reactions to acute developments. One often encounters the belief that, since the organization has been around for the past 77 years, they must be doing things right. However, as was pointed out in 3.1.3 *Multi-dimensionality of the system*, the outside world is changing which has both major and minor impact on the system. One such example is the changing attitude of donors, who now increasingly question the use of their funds, thus forcing the system to re-act. It lead to the introduction of policies and procedures. Branch office structures were revised and new trainees sourced in outlying areas.
These are only a few examples to illustrate how foreseeable developments were only met in order to avert damage to the organization. The so-called “firefighting“ is a common phenomenon. The Cape Town Society for the Blind is clearly not yet a learning organization, where change and improvement are anticipated as part of the fabric of the organization. It is common practice to live with unsatisfactory conditions, processes and structures until pressure demands action. There is the constant awareness of thee need for change, yet action is lacking and energy is spent by talking or worrying about it.

Two major trends that will have an impact on welfare organizations such as CTSB already emerged, namely the emphasis on empowerment of all disabled groups and towards the generalization of services for people with different disabilities. While the Society has been a precursor in the empowerment of blind people by closing the sheltered employment, providing them with business training and cutting down on social services, the moves towards opening services up to the disabled community in general are rather inert. However, as the number of new training candidates is in steady decline, a re-action to this trend will have to come sooner or later. The industry has so far also failed to meet the expectations of the Department of Social Services with regard to co-operation in order to avoid the duplication of services. The competition for funds, donor money and clients creates isolation and single combats rather than striving networks and co-operations in the transactional environment.

Ethos

The ethos refers to organizational culture. It includes worldviews, beliefs, values and attitudes of the system. It is also reflected in the brand. The ethos guides the members of the system in their activities.

In a strategy workshop in 2001 the following value statement, reading the word SOCIETY, was developed by staff and management (for a more detailed version see Appendix III.1):

S elf-Representation – right of blind and VIPs to represent themselves

O wnership – transfer responsibility and accountability to individuals and teams

C ustomer Service – align the activities to every customer's need

I nnovation – ensure the ongoing development of new ideas and practices

E mployee Recognition – recognize achievements and non-achievements of individuals and teams

T eamwork – work towards a common purpose, talk and listen to each other

Y es-Attitude – a positive 'can do' and 'will do' attitude

Not even a year later the perception of staff regarding the implementation of and adherence to the Society's value statements was scrutinized. The (rather disenchanting) outcome (see also Appendix III.2) showed clearly that a system does not automatically take in values simply because they have been listed by its member. Another 2 ½ years later these values are neither remembered nor can they be publicly found – and they are certainly not lived. It is clearly the case of having an official list of value statements while a tacit set of values is lived. These tacit values are strongly stamped by economic values such as profitability and sustainability on the part of the Board of Management while it is almost a culture of non-performance that reigns amongst some employees. Profitability has become the imposed focus ever since the Board of Management decided that the organization is to be run on business terms. Since then there is the "tension between being a welfare organization and a business". There is resistance to change amongst those who want to hold on to charity culture while the Board of Management hopes to create a culture "conducive for entrepreneurial thinking". Values such as integration, equality and empowerment of VIPs – which one would expect to be dominant in an organization like CTSB – but also product and service quality perish in this strifle.

It is important to notice that a system can rightfully have any value, as long as they are put into the right context. Values are of different relevance in different activity systems (for example, austerity in finance but empowerment in training). Their importance and role, i.e. being the drivers of the system, needs to be understood and they have to be reinforced by management accordingly. However what management misses most in the organization is an overarching culture of accountability, responsibility and ownership.

The confusion about the identity of the organization even extends into the public where people still refer to CTSB as “the basket makers” or “The Civilian Blind” – the original name that was changed in 1994. A branding workshop with staff and later also different stakeholders (see Appendix III.3) brought out the disrupted picture of the Society, its image and services – and the need to re-brand. However, due to the disrupted identity – who are we, what is our business and who do we want to be? – the process could not be completed. Only when this “identity crisis” is resolved at the highest level can the rest follow – guided by solid governance.

Aims

The aims aspect in the Biomatrix model is reflected in the purpose, mission and vision statements of an organization. With its aims an organization distinguishes itself from others and defines the scope of its activities. Aims are a translation of the ethos into specific outcomes. Accordingly the disruption of the ethos is reflected in the aims of CTSB.

Several changes have been made regarding the mission of the Society over the past years. In the annual report 1996/97 the following mission was stated:

“To be recognized as the organization in the wider Cape Town area which works to improve the quality of life to the blind and empower them to take their fair place in society.”

The following vision statement can also be found. It shows management’s view of what they would like to create in the future:

“Through partnerships with visually impaired persons, similar organizations, private sector providers and investors, create the ultimate means and facilities to ensure full economic integration of visually impaired persons”

Later this mission was changed into a purpose and narrowed down during a workshop:

“Cape Town Society for the Blind: A vehicle to facilitate sustainable employment opportunities of Visually Impaired Persons.”

The latest purpose, stated in the recent business plan for the future CTSB including the Six Dots market, is much shorter, easier to memorize but leaves more room for the activities and services of CTSB:

“To grow sustainable wellness for Visually Impaired Persons.”

It was only during the latest branding workshop that all staff members took in this short and simple purpose statement. The changes over the years and the fact that different people at the Society used to say different things to describe what is done there allow conclusions about the uneven path of the Society. The identity is still developing, a process that can be strengthened by linking the activities and the purpose. At the moment the real aim, i.e. the purpose, is often lost or gets replaced by all the sub-problems that demand "firefighting". Aims and identity of a system stand for stability in a changing environment and clarity about them will allow the system to be pro-active in its moves.

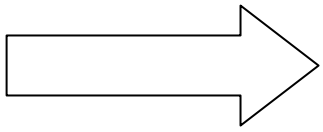
Process

The process aspect refers to mei flow, i.e. the transformation of an input substance into an output substance.

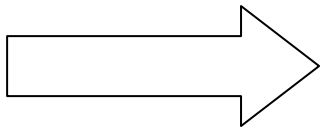
Processes can be assigned to the individual activity systems. They are designed to achieve a specific aim. The less structure there is, i.e. a repetitive pattern, and the less specific the outcome the more random the process becomes.

The following major processes can be identified at CTSB:

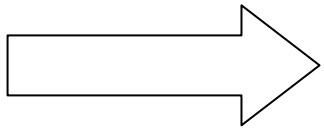
Training



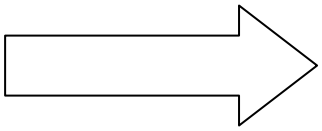
Career pathing



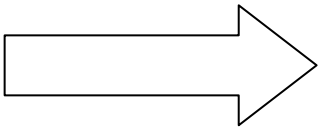
Fundraising



Production

Placement of order with SBUs  Quality product

Sales

Order/ intention to buy from customer  Sale

The activity systems each have their targets for these processes and most of the time making target is the only focus. However, in addition to making target the outcomes can – and should - be directly or indirectly linked to the purpose of creating sustainable wellness for VIPs. The final purpose is then to create jobs and employment opportunities for VIPs so that they can earn a reasonable and sustainable income. Unfortunately, this is often neglected and coherence between the processes with a view to facilitate the overall purpose is lost.

Amongst the “frogs” several deficiencies can be found concerning sub-processes, especially in production, sales and repairs. For example, there is no satisfactory (structured) process of quality control or handling orders. Products of bad quality enter the showroom, orders get lost in the process. Also the process of collection and delivery of items is ad hoc and inferior. On the level of the entity system the workshops brought up deficiencies in general processes such as decision making, information, performance management or staff training.

Structure

The structure aspect is closely linked to the processes, whereby a proper structure allows for a repetitive pattern and stability in the process. The Biomatrix distinguishes between three different types of structures (please note that boundaries between the process, structure and mei aspect can be fuzzy):

- mei components/resources
- mei flow within an activity system
- organizational structure/pattern of interaction

The structure within a process is made up by means of acting (workforce, machines) and support (buildings, equipment) substances.

At CTSB resources and budgets are handled in terms of the past and not in view of the future. All patterns – from the arrangement of workstations to the range of duties - are there to sustain past processes.

Structural problems have amongst others been deplored regarding departmental transport, insufficient or lacking software and not-computer-literate staff members. The lack of back-up staff only allows for unstable structures. In the case of the sales process the arrangement of acting and support structures is unsatisfactory as distances are long, which causes delays and hampers the process. Other “acting substances”, i.e. employees, have multiple functions in parallel processes (production and sales, training and general support, administration and sales/production), which makes them unavailable. This needs to be evaluated and job functions revised in order to streamline processes and stabilize structures.

In terms of organizational structure the traditional hierarchy of the industrial age can be found in the current management structure which is reflected in the organogram:

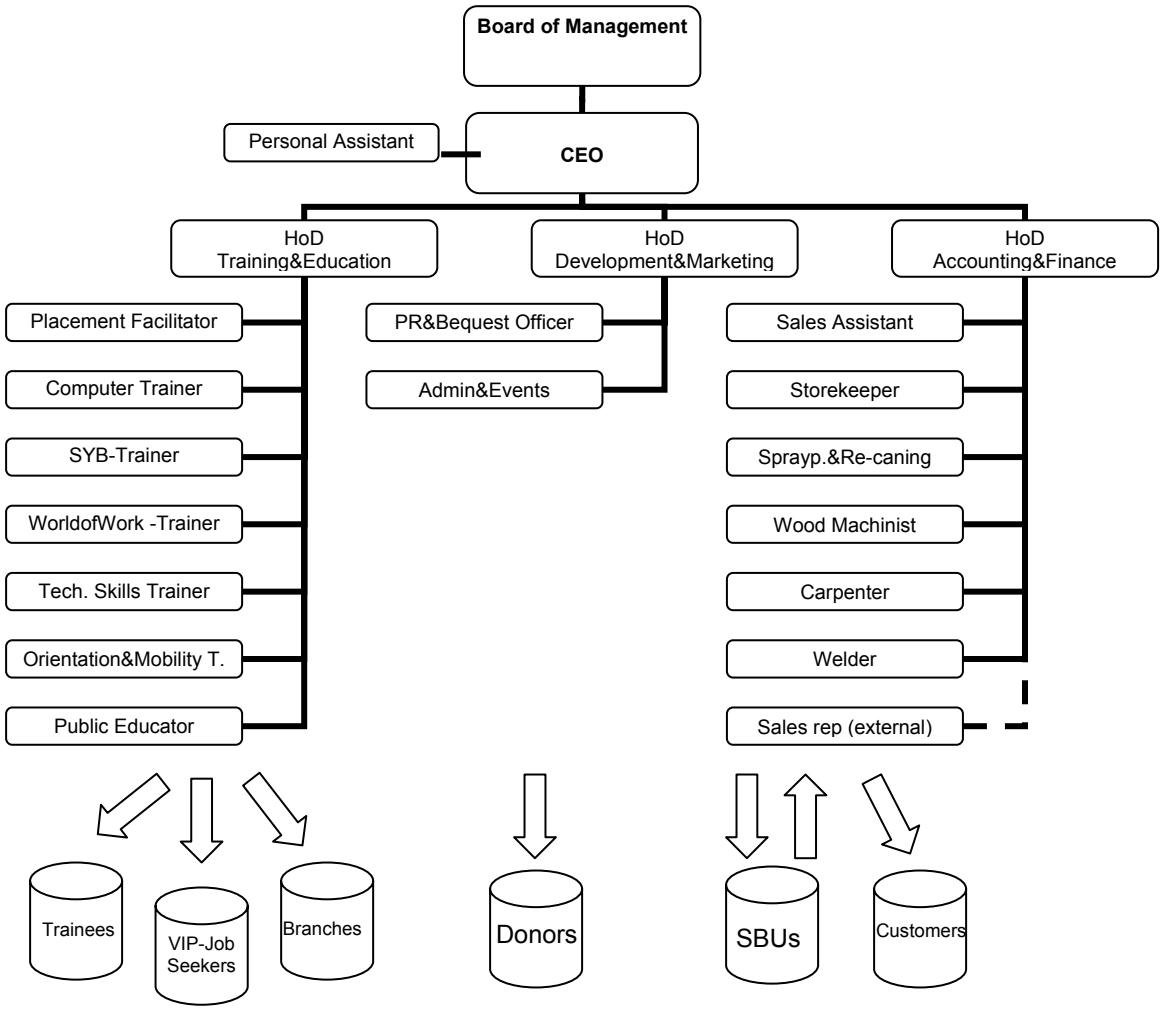


Figure 11: Current organogram of the Cape Town Society for the Blind and direct customers

The disadvantages of this classical structure also apply to CTSB:

- Functional separation and isolation
- Lack of communication and coordination
- Structural conflict between functions
- Inward focus but lack of outward focus towards stakeholders
- Slow reaction to changes in the environment

(cf. Dostal 2005)

This is reflected mainly in problems such as misleading information to the Board of Management and between staff and management, lack of departmental and inter-departmental communica-

tion and resistance to change. Departments are mostly seen as entity systems not as part of supporting the overall aim of the organization.

Governance

Governance describes the “steering of the ship” and therefore it influences all other aspects through planning, regulating, monitoring the achievement of objectives and guiding. This influence, however, is mutual, especially when it comes to ethos and structure. For example, an authoritarian ethos and a hierarchical structure evoke control and top-down decision making. As mentioned in chapter 1.6.4 the Biomatrix distinguishes between form-maintaining (i.e. performance assessment), form-creating (i.e. promoting change and development of the system) and form-destroying (i.e. sanctioning) governance.

At CTSB compensation and rewards are to be linked to performance. The assessment, however, turns out to be difficult. The Board of Management has recently introduced a performance-based bonus system whereby 15% of net profit above total budget are to be divided. Furthermore, departmental and personal performance are to be assessed in the following four categories:

- Grow the business
- Customer focus
- Cut costs
- Create wellness

This type of form-maintaining governance is, however, still insufficient. Targets and performance feedback were entitled as “unclear, vague and somewhat subjective” and the need for weekly planning and feedback meetings with staff expressed. Additionally the half-yearly performance appraisal needs to be revised. Management does not use the so-called Key Result Area (KRA) assessments as a tool to improve performance. It is seen as a “necessary evil” rather than means to manage employees and to enhance their personal development. As much as performance assessment and feedback must be individual, there should also be comparability between departments and it should serve the overall purpose. The use of 360° feedback is also problematic, where the individual is assessed by a colleague, a customer, his/her superior and him-/herself. This has proved to be a rather random process that initiates speculation instead of being a constructive assessment and feedback.

Governance is a critical problem at CTSB which is clearly reflected in the considerable list of problems around governance issues such as performance management, communication, management, planning, implementation and coordination. Form-maintaining governance is insufficient while form-creating governance is often initiated but rarely conducted consequently. Moreover there have been incidents were form-destroying governance should have been executed but was stopped half-way. Other aspects mentioned before also highlight the deficiency in the emergent governance, thus reflecting the diffuse ethos of the system.

In addition to regulatory issues, strategic planning, as part of the implementation and evaluation of governance, is another weakness of the organization. No formal strategic planning structures are in place in which the organizational purpose would get translated into strategic aims and actions or where the impact of changes in the environment is assessed. Although the vehicle is created by having regular meetings between the CEO and HoDs, the system is caught up in day-to-day business so that planning is ad hoc – again proof of the disrupted identity within.

The governance of governance, i.e. the Board of Management, is providing form-maintaining governance at the moment when it should in terms of its mandate actually be offering form-creating governance. Instead of looking at aims and ethos the focus lies on mei, namely budgets and resources. Figures should be perused with regard to the overall purpose of the organization and whether that is reflected. This means that the performance of the organization should be reflected in the number of VIPs making a reasonable income, i.e. how many have been placed or have started their own business and how much are they earning. At the moment only a fraction of that is documented as part of a list attached to the financial statements.

Substance (mei)

Substance or mei (matter, energy, information) refers to the organizational resources such as human, material, technological, knowledge or financial resources. Resource management in turn deals with the acquisition, distribution and maintenance of resources as well as capacity building. Mei is closely related to process and structure.

Resources are generally neglected, from the not blind-friendly, partly run-down and badly maintained premises to untrained staff. The complaint about incompetent staff is paired with a simultaneous complaint about the lack of staff training. This corresponds with the remark that there is no culture of learning. Only appropriate talent can deliver performance. The equipment in production and cane repair (recaning) is said to be inadequate while SBUs deplore the bad quality

of cane which, together with an insufficient process of quality control, leads to production of unsatisfactory products. However, the cost of cane drives up the cost of products.

These problems illustrate the interdependency between the aspects well. Deficiencies in ethos and governance lead to flaws in substance. The flaws in substance in turn reinforce deficiencies in process and structure. This is paired with resistance to change everywhere in the organization: amongst staff, the Board and the SBUs.

3.2. Ideal Design

Practical problems demand practical solutions
- Dewey 1936, referred to by Pasmore (2001)

The analysis of the seven systems aspects of CTSB makes it abundantly clear that the assumption that the system itself is working adequately and not in need of change cannot be sustained. Problems within the system interact with each other, spanning over several levels of the Biomatrix, and co-produce new problems despite repeated attempts at problem solving. The complexity of the problems demands a redesign, i.e. working from a different level in order to dissolve problems instead of causing new ones in other parts of the system.

As was noted before, the present case study was based on an action research process. This implies that some aspects of what is presented in the Ideal Design have already been implemented as part of the transformation of the Society.

Based on the outcomes of the analysis and the “Frogs and Princes” exercise a design notebook was compiled from which the final ideal design was extracted. The Ideal Design is the coherent essence and integration of the “princes” and strategies that were defined in the workshops. It draws a picture of how the future should ideally be, and furthermore the mediating discourse, as referred to by Gustavsen (2001, cf. chapter 1 *Introduction*). The practical knowledge drawn from workshops, from stakeholder information, document analysis and observation – as summarized in chapter 3.1 *Analysis of the current system* – is linked with the knowledge provided by the Biomatrix theory. This yields a coherent design of the seven systems aspects of CTSB.

Following the clockwise change process (cf. chapter 2.1.1 *Forces of change*) the ideal design starts with the ideal environmental relations and works through the subsequent aspects along central questions. It is a vision that represents the ideal future (cf. chapter 2.1.2 *Change over time*). By developing and implementing strategies around the Ideal, the system does not carry

the current problems into the future but implements solutions. These strategies are recorded in the implementation plan, which does not form part of this project but will be referred to in chapter 3.3 *Notes on the Implementation Design*.

In the Ideal Design the focus is again on the entity system, which has to be followed by a redesign of part or all of the activity systems. This is outside the scope of the present project.

ENVIRONMENT

In answer to the question: “What responsibilities should CTSB assume for its physical and social environment?” the findings were integrated into the following Ideal:

- We are aware of our environment, globalization and the changes therein.
- We actively adapt and use the changes and trends around us to our advantage. We can be the leaders in our field by using the shift away from welfare as an opportunity and enter into an enterprise such as the Six Dots market.
- We are pro-active and take risks.
- We network with other disability organizations especially those dealing with the blind, and with mainstream organizations and corporates in order to provide and co-produce the best service and support to the disabled in general, and blind and visually impaired people in particular.
- We have a structured approach to managing stakeholder relations.

It needs to be mentioned that what is important about environmental scanning and stakeholder management is that it should be internalized as an active and continuous process in the entity and the activity systems. Dewhurst and FitzPatrick (2005) suggest assessing the actual and wanted advocacy of each stakeholder and setting up a communication plan to close that gap. This is particularly advisable for stakeholders inside the organization such as staff, the Board and the SBUs.

By not looking at a variety of potential stakeholders, CTSB actually runs the risk of missing opportunities. Hart and Sharma (2004) emphasized the risk that organizations take by not looking at potential stakeholders outside the known scope of the organization. The saying “you don’t know what you don’t know” is highly relevant here. When it comes to creating employment op-

portunities for blind people the organization needs to think “outside the box”. Creative new business ventures and income opportunities may be found. This should be the main task of the CEO: managing environmental relations, networking and create a focus on the purpose of the organization.

ETHOS

In answer to the question “Which beliefs guide and inspire CTSB? What are our values?” the following statements of Ideals emerged:

Entrepreneurial mindset with a welfare ideal

We believe in the power of and need for entrepreneurship for the future of our organization and our clients. We abide by the principle of entrepreneurship which we marry with the welfare ideal in order to create wellness for VIPs.

Responsibility, accountability, ownership

Every person is responsible for his/her job and the driving force behind it. Our ownership is based on pride in what we do and the organization we work for. We are accountable for what we do and take responsibility. We learn from our experiences and move on towards our common goals.

Transparency on all levels

Transparency, honesty and openness help us to create a learning environment where we all together try to meet the challenges the organization is facing and are eager to learn from our experience.

Networking and teamwork

In all our relationships let’s make it work together, be it amongst staff, departments or with other organizations. United by the shared objective of enhancing the life of VIPs and other disabled, we create synergistic co-operations.

Customer care

We want to delight and satisfy our clients and customers and take pride in it. We are there to serve them and go out of our ways to make things happen.

Contribution to Society

We believe that disabled people are full members of the society. They can make a contribution to society and to the psychological development of able-bodied people. At CTSB we give them the opportunity to do so.

These values have been identified as being desirable for the development of the organization, as well as that of the individual VIP. They are attitudes that need to be translated into behaviour (as has already happened in a customer care course). However, they should also be continuously exemplified by staff and through management's actions. Governance has to reflect these values authentically and demonstrate it.

AIMS

In reply to the question "What is our reason for being?" the existing purpose statement is re-emphasized:

We are there to create sustainable wellness for VIPs.

Looking at literature, the trend is towards simple statements, away from long vision-, mission- and goal-statements. Hock (1999: 8) states that the organizational purpose should be a clear simple statement of intent; "it is an unambiguous expression of that which people jointly wish to become".

Perhaps Kotter (1996: 90) has a point when he says that a key element of effective communication of the vision should remove all "jargon" and "techno-babble". Handy (1989: 106) also emphasizes that the vision must be understandable for everybody, it should even create an 'Aha Effect'. Moreover it must be related to the work of staff, short and simple, without jargon and fancy words. Any activity should be evaluated with regard to its direct or indirect link to this purpose.

It is however necessary to define the visions and missions for the inward-, outward- and self-directed activity systems in order to match the strategies appropriately. The key strategies are part of the aims aspect and the broad and long-term means of the respective activity systems. They are laid out to reach the ends, i.e. the missions and visions. The design here represents the ideal future and the implementation design has to be aligned with it.

Inward-directed

Our mission is to turn CTSB into a recognized brand by providing products and services for disabled and VIPs in particular and to be acknowledged as the world leader in the field of training VIPs.

Our vision is to be a profitable organization with a welfare ideal and an internationally recognized brand. We stand for helping disabled people and VIPs to help themselves, for their empowerment and for quality products and services.

Key Strategies

- ⇒ We continuously improve the quality of what we do.
- ⇒ There is coherence in what we say and what we do.
- ⇒ We continuously and innovatively market our name, products and services.

Outward-directed

Our mission is to provide supporting structures and partnering opportunities for the economic wellbeing of VIPs. We want to be a thriving business aimed at creating economic viability amongst VIPs and achieving sustainability. We always seek new opportunities to market our products and services for the benefit of the VIP. We create an organization and a working environment that provides our SBUs with a stable income.

Our vision is to turn all of our clients into independent, economically resilient members of the society. For our customers and suppliers we are a preferred business partner.

Key strategies

- ⇒ We offer career development and render accredited training services that provide all our clients with skills, support, self-esteem and competencies that will make them self-sufficient.

- ⇒ We conduct sustainable and profitable business activities.
- ⇒ We are the preferred supplier of our chosen range of products to businesses and individuals by producing quality, providing excellent service and conducting an effective and efficient production process.
- ⇒ We always seek new opportunities to delight our clients and customers.

Self-directed

Our mission is to create an organization and a working environment that our employees and members of the Board of Management are proud of, feel good about and which provides meaning, learning and development opportunities for them.

Our vision is to be a place of passion, fun and creativity with a purpose, for our employees and SBUs.

Key Strategies

- ⇒ We train and educate our SBUs and staff, allowing and asking them to perform to the best of their ability.
- ⇒ We pursue a balance of giving and taking.
- ⇒ We have fun.

If the ethos of the organization is an entrepreneurial mindset with a welfare ideal, the focus of making target must in actual fact be subservient to the purpose. Sustainable wellness is created when enough work is generated so that all constituents can earn a living wage (and ultimately do no longer need the disability grant). By making target the organization is able to conduct appropriately focused training that is effective and which will empower blind people to be successful in having a career that creates meaningful lifestyles. The Society needs to be united in its purpose to create opportunities for VIPs. This can be managed by questioning and assessing every action against it. This purpose-driven thinking that got lost in the past needs to cascade from Board of Management down to the individual staff member.

PROCESS

The processes (and structures) of the organization are the means that facilitate the ends, i.e. the vision of the environment, ethos and aims. The outcomes of the business processes mentioned in the analysis of the current system need to be directly and traceably linked to their contribution to the organizational purpose. These links are there in principle but tend to perish, as the individual activity systems are not put into the context of the organization but seen as entities. In terms of the ideal self-directed processes, the following have been identified as the means to reach the desired ends. These will reflect the ideal ethos and aims.

Decision making

The departments work and decide autonomously within the boundaries of their budgets. In order to promote participation, responsibility and accountability staff are encouraged to work independently and make their own decisions within the (clearly defined) boundaries of their respective jobs. Guidance is provided by the Head of Department. Decisions on all levels are consistently measured against the purpose of creating sustainable wellness for VIPs. In case of urgent decisions during absence of the Head of Department the CEO or deputy CEO are approached.

Cross-departmental collaboration is of great importance in order to streamline the process. Inter-departmental decisions and coordination among the Heads of Departments are part of the daily routine.

Information and communication

To increase transparency and the feeling of ownership and belonging information needs to be shared regarding developments in all aspects and departments of CTSB. Employees themselves report at the staff meeting the status quo and progress that was made. This will contribute to a mutual understanding of tasks and functions, and give an insight into the overall performance of the organization, as well as reinforce striving towards the achievement of a common objective.

Weekly meetings take place on departmental and Head of Department-level. On HoD-level, the emphasis is on strategic planning. These meetings are facilitated and follow specific agendas; outcomes are action plans with allocated responsibilities. Cross-functional collaboration is arranged here and reported on, but takes place outside HoD-meetings.

On a less regular, but not less formal basis, meetings are conducted where information is passed on to the SBUs and official communication takes place. This is crucial in terms of supply chain management.

In addition to the formal meetings, structures for informal get-togethers of all staff are supported in order to facilitate communication and team building.

Performance management

HODs submit the strategic action plans of their departments on a weekly basis in the following four categories:

Grow the business – by creating more opportunities for sustainable work for VIPs, thus generating a minimum level of income.

Customer Care – by providing excellent service, quality and customer care, also after sales service.

Cut costs – by reducing costly waste, introducing fashionable or trendy designs that are easier and faster to produce, thus saving both on time, labour and production costs (i.e. mei).

Create wellness – by providing accredited training of a high standard that is effective in that it facilitates successful and sustainable work and business opportunities with a long-term perspective.

Targets in line with these strategic actions are set between Head of Department and the individual employee, assessed and renewed on a weekly basis.

All actions are linked to the performance of the whole system, again emphasizing ownership and responsibility. Regular feedback on results and possible improvements, as well as clear guidance is crucial in the process.

Staff training

The importance of lifelong learning is emphasized, and employees are encouraged and eager to participate in training courses. Training needs are identified together with every individual employee during performance appraisals, assessing the existing skill levels in combination with a work flow analysis, identifying processes that need to be improved. A yearly budget is set up to accommodate staff training.

In addition to formal training, informal training sessions are offered to all staff on relevant topics, tapping on knowledge of employees.

Maintenance

Maintenance is subject to a preventative maintenance programme.

An ideal design of the processes and sub-processes of the individual activity systems needs to be developed in each department. Those designs will ideally be an integration of the departmental “princes” and strategies as well as the outcomes of the workflow analysis. At the same time they must align with the ethos and aims of the whole organization and transfer those into departmental ethos and aims.

STRUCTURE

The central question of this aspect “What structure facilitates the organizational flow / Which structure achieves alignment between the various activity systems?” was answered as follows:

The three-dimensional matrix seems to be the organization model that best meets the requirements of the information age. It is therefore suggested as the ideal structure for CTSB, especially because it emphasizes the interaction between the activity systems, instead of structuring them as autonomous independent systems. The matrix organization increases the flexibility of the system, emphasizing cross-functional collaboration in order to achieve the organizational purpose.

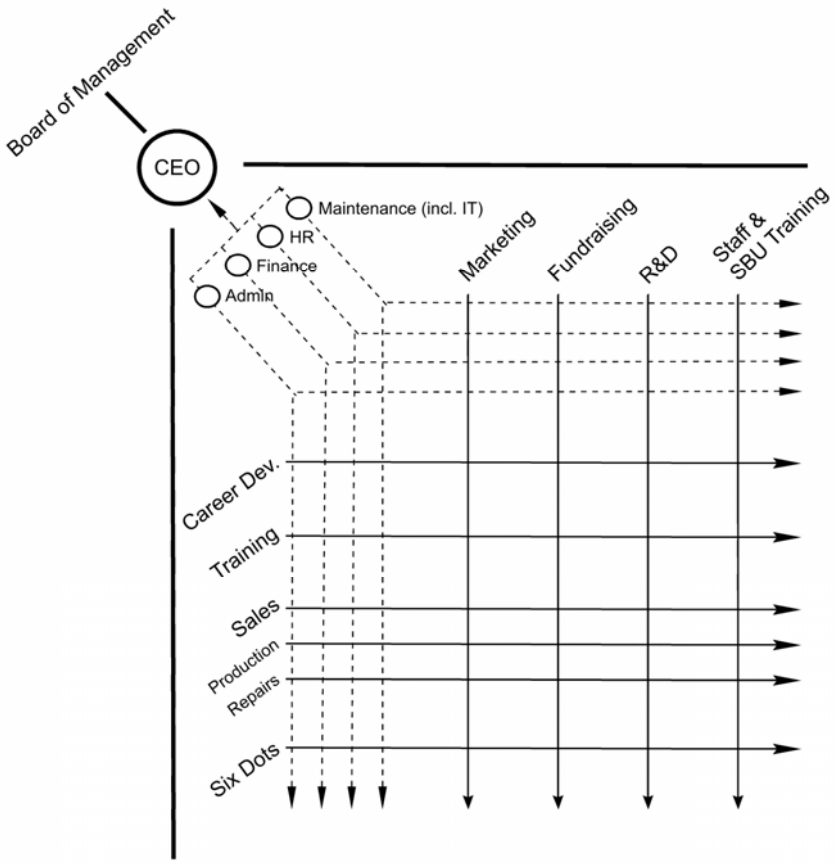


Figure 12: Three-dimensional matrix organogram of CTSB

The future core business processes are Career Development (as an individual department), Training, Sales (with Production and Repairs being sub-processes) and possibly the Six Dots craft market. They all have their specific outcomes linked to the organizational purpose. Business support is provided by the following activity systems: Marketing, Fundraising, Research&Development (mainly product but also general business development) and as a new component of the learning organization an activity system in charge of staff and SBU training. Overall organizational support consists of Finance, Administration, Maintenance (incl. IT) and Human Resources.

The ideal structure regarding mei components and mei flow is covered in the section on substance/mei.

GOVERNANCE

In answer to the question “Which regulatory criteria and mechanisms govern the organization?”, the following norms and principles (or Ideals) were derived from the defined “princes” in the workshops with management and staff:

- Up-to-date, clear and relevant Policies and Procedures cover all areas of the organization, thus providing the regulatory system of the organization. These are communicated and a manual is accessible at all times. Disciplinary procedures are in place and followed in case of misconduct.
- Promoting ownership and responsibility, employees are empowered to make own decisions in their area of work. They are coached and guided by their Head of Departments. The departments manage their own budgets, but synchronize their decisions, performance and spending with that of the other departments in order to achieve the organizational purpose jointly.
- An incentive system rewards all employees for their contribution to the performance of the organization and acknowledges their participation. This is combined with the performance or non-performance in terms of meeting individual targets on which regular feedback is given.
- We are transparent about our strategic plans as well as changes to them. Thorough planning is followed by assigning responsibilities, action plans, time frames, immediate implementation, follow-up and evaluation.
- We include our inner stakeholders in decision making. We ask for and consider their input and inform them about plans and outcomes.
- At all times fair reason can be given to anybody for decisions and actions, also for unpopular ones.
- The Board of Management, as the governance of governance, is a strong, effective, active board without inappropriate operational involvement. It strengthens management’s ability to run the organization effectively. It ensures that the organization fulfills its purpose by setting high standards.

The implementation of these norms and principles requires discipline and sincerity from Board and management. In return it will provide solid governance and robust decision-making to the organization. That reinforces the ethos and aims, and offers orientation and guidance to staff.

MEI

Looking at the “princes” and the requirements of the Ideal Processes and Structures the following describes the ideal outcome of resource management:

Input substances:
Cane, wool: available, competitively priced, good quality
Donor data: correct, complete
Trainees: motivated, reliable, access to transport

Output substance:
Cane products, weaving products: good quality, meeting demand, competitive prices
Material and monetary donations: relevant to providing blind and VIPs with skills and services
Trained persons: skilled, knowledgeable, motivated and with self-esteem

Acting substance:
Staff: knowledgeable, competent, motivated, good communication and social skills, pro-active; business-oriented achievers with social competencies
Machines: modern, meeting safety standards, efficient

Support substance:
Premises: blind-friendly, secure, light and friendly
Retail outlets: Spacious, attracting customers
Transport: accessible, reliable
Computers: reliable, relevant and modern software
Tools: modern, meeting safety standards, efficient

When looking at the human element of the organization lack of appropriate talent might be one of the core problems of the Society. Drucker (1990) argues that volunteers and employees of

NPOs tend to have high levels of commitment and enthusiasm, fostered by the belief in the cause they serve. In this context, he recommends maximizing human resources potential through a particular emphasis on training and developing people, correctly placing people, setting high performance standards, and emphasizing recognition and reward.

To channel the energy of human resources towards their missions – to create alignment with the purpose – successful NPOs need to create cultures which embody the goals and values of the missions and which encourage problem-solving and innovation. In addition, these organizations need to be structured around information needs (not hierarchy), with excellent internal communication (Drucker 1990; Senge, 1990).

3.3. Notes on the Implementation Design

The implementation design records strategies and action steps that link the ideal design with the current reality. Through the method of backcasting, i.e. developing iterative steps from the envisaged future to the present (not vice versa), a realistic way forward is created that leaves the current problems behind. The tools of project management, such as timeframes, allocation of responsibilities, milestones and monitoring, substantiate the enterprise (cf. Dostal 2005). However, Bridges and Bridges (2000) pointed out that change is not linear and that a roadmap might be more useful than a plan. For this reason recommended actions have been incorporated in the design, rather than a step-by-step plan, which always runs the risk of becoming mechanistic.

Plans will be changed and in the end the success depends on the flexibility, responsibility and ownership of those affected. Staff involvement in not only planning, but revising and monitoring the process is crucial. Therefore the implementation design is not included as part of this project; such a plan needs to come from within CTSB.

Dostal (2005) pointed out that the implementation of a redesign will most probably be a “traumatic experience” for an organization. Bridges and Bridges (2000) explained this by distinguishing between *change* and *transition*. While change refers to new structures or policies, transition is a psychological reorientation that the people involved have to go through. This is happening much slower than the actual change, but can be eased by adhering to the “4 P’s” of transition communication:

purpose:	why are the changes necessary
picture:	what will it be like when the goal is reached
plan:	what is happening, step-by-step
part:	what can (and must) the individual do

For a successful change and transformation process a system requires more than a plan. It needs leadership combined with a vision.

4. Managing the change process at CTSB

The key to a successful transformation is a major change in the organizational culture (i.e. the ethos) (Dostal 2005). Statistics show that “about 65% of major organizational change efforts fail” (Mc Lagan 2005, cited in Dostal 2005: 391), proving that the ethos is an intangible construct that is hard to crack but everybody in the organization is subject to it.

This chapter will reflect on the change process at the Cape Town Society for the Blind that was initiated after the first Biomatrix workshop. In order to structure this reflection Kotter’s (1996) eight-stage process will be applied to the approach and management of the transformation at the organization. The eight stages for creating and leading change are as follows:

1. Establishing a sense of urgency
    - Examine the market and competitive realities
    - Identify and discuss crises, potential crises, or major opportunities
2. Creating the guiding coalition
    - Put together a group with enough power to lead the change
    - Get the group to work together like a team
3. Developing a vision and a strategy
    - Create a vision to help direct the change effort
    - Develop strategies to achieve that vision
4. Communicating the change vision
    - Use all possible means to constantly communicate the new vision and strategies
    - Have the guiding coalition show the behaviour expected of employees
5. Empowering broad-based action
    - Get rid of obstacles
    - Change systems or structures that undermine the change vision
    - Encourage risk taking and non-traditional ideas, activities and actions
6. Generating short-term wins
    - Plan for visible improvements
    - Create those wins
    - Visibly recognize and reward people who make the wins possible
7. Consolidating gains and producing more change
    - Use increased credibility to change all systems, structures, and policies that do not fit together and do not fit the transformation vision
    - Hire, promote and develop people who can implement the change vision
    - Reinvigorate the process with new projects, themes, and change agents
8. Anchoring new approaches in the culture
    - Create better performance through customer- and productivity-oriented behaviour, more and better leadership, and more effective management
    - Articulate the connections between new behaviours and organizational success
    - Develop means to ensure leadership development and succession

I am referring to Kotter even though his approach was found to be focusing too much on the issue of governance, as opposed to the more holistic Biomatrix framework (cf. chapter 1.5 *Theoretical overview of Systems Thinking Approaches*). There are however similarities between Kotter's stages and the ideal and implementation design based on the seven systems aspects of the Biomatrix. Kotter follows the counter-clockwise force (cf. chapter 2.1.1, fig. 9), which came out strong at CTSB. Events and activities therefore coincide with Kotter's process to a large extent. The organization showed a tendency to mechanistic thinking, wanting to go about in a linear and controllable way. This might – in combination with a lack of governance and leadership, which in turn co-produced other problems – be one reason why the transformation has not yet brought the desired outcomes.

Stage 1 - Establishing a sense of urgency

"Without a sense of urgency, people won't give that extra effort that is often essential. They won't make needed sacrifices. Instead they cling to the status quo and resist initiatives from above" (Kotter 1996: 5). Bridges and Bridges (2000) referred to the purpose ("why does this have to be done?"), one of the four pillars of transition communication that need to be emphasized continuously. Establishing a sense of urgency is crucial to get the necessary buy-in from all employees. The work to be done requires good co-operation, initiative and willingness to make sacrifices from everybody.

At CTSB the need for change was understood by the Board and management. It was re-emphasized and specified through the problem analysis in the Biomatrix workshop. A reaction of devastation at first changed later into a sense of urgency. This was passed on to staff the very next day and reinforced through workshops, creating motivation and excitement. The workshops were a good opportunity for staff to express their frustration about the constant talk about change but the missing action. With regard to the general attitude of staff it can be stated that what management perceived as resistance to change amongst staff was rather the expression of skepticism, frustration and doubts and being tired of plans and promises that were never put into action over the past six years. Everybody understood the need for change and was ready to support it, seeing the potential for improvement at CTSB and in their services to blind people, but without clear guidance, transparency and action staff has not been empowered to support the process.

Even though the motivation was there, a completed “problem dissolving” process and appropriate action plans for the intervention were missing as an outcome. Instead of focusing on the design of an intervention the workshop emphasized the educational topic of systems thinking. A practical guideline on how to go about the transformation process would have been necessary to accommodate the need for orientation and guidance. It could have provided a systemic anchor in this process. As this was not there the workshop resulted in action that can be characterized as random problem solving, which clearly has its limitations as it was leading to loose ends rather than a coherent net.

Stage 2 - Creating the guiding coalition

A change in ethos requires a powerful force to sustain the change process.
Kotter (1996) identifies four key characteristics that are crucial when putting together an effective leading coalition:

- *Position power*: Are enough key players involved so that progress cannot be blocked easily?
- *Expertise*: Are different backgrounds and points of view adequately represented?
- *Credibility*: Are people on board that have a good reputation and are taken seriously by others?
- *Leadership*: Are enough proven leaders not just managers on the team?

In addition to the above the two crucial components for an effective team are trust and a common goal.

With CTSB being a rather small organization there was only a very limited choice of potential members for what was here called “transformation team”. The three members were appointed directly after the Biomatrix workshop and given the task to develop the ideal design. It looked like a promising team, yet neither trust nor a common goal could be established.
“In the behind-the-scenes struggle between a single executive or a weak committee and tradition, short-term self-interest, and the like, the latter almost always wins. They prevent structural change from producing the needed behaviour change” (Kotter 1996: 6).

The work of the team started with tackling the most obvious “frogs”, i.e. to make changes in the literal environment (the premises), that had a negative impact on the culture. As extreme pressure was created, suggestions and ideas of individuals were accepted for the sake of action and complied with. However they were not based on the purpose or aligned with a collective ethos. The team did not know how to go about developing the Ideal Design and members were extremely busy in their departments, as a result of the established sense of urgency leading to action. Furthermore there was no common vision on how to solve and dissolve the organization’s problems. The team was not a team, but individuals with different backgrounds, interests and

levels of enthusiasm. The level of trust was low and there was no shared commitment to provide leadership to the organization in this transformation process. Moreover, the culture of the organization can be characterized as rather conservative, which was reflected in the team. One workshop on systems thinking was not enough to change minds from mechanistic to dynamic thinking, or to enable the members to lead a systemic change process.

Stage 3 - Developing a vision and a strategy

Since the workshop the organizational purpose "To create sustainable wellness for VIPs" was regularly promoted and emphasized as the overarching aim. Strategic planning and reporting was requested by the supervisor - who had been assigned by the Board – on a weekly basis. The following strategic goals and actions, all related to the organizational purpose, served as a guideline:

- ⇒ *Providing career development, as well as accredited training and education that will lead to sustainable work for VIP's.*
- ⇒ *Conducting sustainable, profitable business activities to create wealth for VIP's.*
- ⇒ *Being the preferred supplier of our chosen range of products to other businesses by conducting an effective and efficient production process.*
- ⇒ *Being THE PLACE TO BE SEEN, i.e. SIX DOTS.*
- ⇒ *Continuously improving the quality of what we do.*
- ⇒ *Always seeking new opportunities to delight our clients and customers.*
- ⇒ *Having fun!*

Heads of Departments were asked to weekly translate these into action, to define the corresponding measurable deliverables, to state the challenges they saw and where cross-functional collaboration would take place. Each department had to identify their actions in each of the following categories:

- ⇒ Grow the business
- ⇒ Cut costs
- ⇒ Customer service
- ⇒ Create wellness

What was supposed to enforce strategic, but most of all purpose-oriented thinking, planning and acting was more seen as a time-consuming exercise by the Head of Departments. Neither were the goals and actions internalized, nor was a logical link drawn to the overarching purpose. The goals and actions were not strengthened by a collective ethos. Staff was not involved in these plans. No long-term planning or coherence in action emerged. Cross-functional collaboration

was more of a paper-exercise than facilitating the emergence of a three-dimensional matrix structure. The main question was often how and with what to fill the categories.

Stage 4 - Communicating the vision

"…people will not make sacrifices, even if they are unhappy with the status quo, unless they think the potential benefits of change are attractive and unless they really believe that a transformation is possible" (Kotter 1996: 9). A vision illuminates the overall direction for change and facilitates the coordination of actions. In order to be effective a vision must be imaginable, feasible, desirable and catching.

Communicating the change vision was problematic as there was no agreement about this vision. For some the vision was sustainability, financial growth and meeting targets. For others the aim was a change in the actual business of the organization (whereby the question "what is our business: retail or training?" came up during the workshop, already reflecting the current confusion). The fundamental question of the viability and sustainability of establishing the Six Dots craft market has so far not been answered. It was tried to consolidate this as a vision through a highly successful brainstorming workshop with experts from different fields (see Appendix V). Funding has been granted (and can only be used for this specific project), the concept was developed and architects were assigned to design the new buildings. Nevertheless doubts about the feasibility kept coming up on all levels and could over a period of several months not be resolved.

Gharajedaghi (1986) describes the consequences of mistaking growth for development, where growth refers to an increase in size or numbers whereas development refers to how much people can do with whatever they have. Development will lead towards the virtuous organization, that creates wellness and an income for VIPs, strives for excellence and maintains honoring relationships. A focus solely on growth on the other hand will not support the purpose of the organization, but yield unethical behaviour and facilitate harmful relationships (cf. figure 1).

Stage 5 - Empowering broad-based action

“People deprived of self-organization and self-governance are inherently ungovernable” (Hock 1999: 121). Staff is the source to tap in order to increase performance. People need to be encouraged and empowered to produce the changes needed in line with the communicated vision.

The motivation to act was immense on all levels. With the sense of urgency that had been created and a certain pressure from the Board to act and perform, a process of “busyness” began. Broad-based action was empowered by encouraging and supporting new ideas and initiatives such as new products, adding value to existing products or new displays. A décor committee was established to involve staff in making the premises more blind-friendly and pleasant, a contact point was set up to collect ideas for new products that were then handed over to the new-product committee, and time was granted for weekly prayer meetings together with the SBUs. However, action was never assessed against the question whether it helped to achieve the organizational purpose. Many employees did also not feel comfortable with taking action and responsibility themselves, presumably as this is neither supported by ethos nor governance. An attitude that someone characterized as “fear of achievement” and that reflects the culture of non-performance prevailed within what can be described as a hierarchical structure.

Stage 6 - Generating short-term wins

In order to generate short-term wins and to make the change process and the corresponding achievements more visible and tangible, the employee-of-the-week-reward was introduced. It was awarded weekly for specific actions in each of the four categories:

- ⇒ Grow the business
- ⇒ Cut costs
- ⇒ Customer service
- ⇒ Create wellness

The award was initially recognized with sweets, later on with a small gift. The purpose was not only to pay attention to short-term wins but also to create the momentum necessary to develop a more performance-oriented culture by introducing extrinsic motivators. The expected success however failed to appear due to the low value attributed to the award. The gifts were cheap and not always to people’s liking, and the recognition itself was often met with incomprehension, as people felt they had simply done the job they were being paid for. The executive team did not place enough value in the practice, and little thought went into the reward process. Minor im-

provements in performance could be detected, but this was mostly due to the Hawthorne effect. Momentum was unfortunately lost over the Christmas holiday period, and it became more and more difficult to find behaviour that qualified for the award on a weekly basis and in all four categories. Complacency won over the initial turn-around. The organization had a tradition of recruiting from, which simply attenuated the culture of non-performance. The forces against change were therefore stronger than the forces for change.

Stage 7 - Consolidating gains and producing more change

At this point the Board decided to remove the CEO, who admitted that she was not capable of implementing the change process or governing the organization. In the course of this process a general change in attitude linked to “the new CTSB” could be noticed: an increased openness and striving to explore and pursue new routes and the willingness to invest and to take some risks. One example was the participation in the Aid to Artisans programme. In the course of product development efforts, the Society applied for and was accepted to this programme. Despite the scarcity in funds and manpower the will was there “to make it work”. A new appointment was made in the production department to compensate for the lack of skills present and subsequently structural changes took place in that department, yielding improved processes. The effort put into this project did unfortunately not bring the results hoped for, but it opened the door for new ways of organizing.

A few months after the initial workshop it was necessary to increase momentum again as the process had slowed down and threatened to stall. It was reinforced by means of the branding workshop (cf. Appendix II.3). The “brand CTSB” was newly defined by staff, a sense of belonging to the organization created and the need for change reemphasized. Media and stakeholders were involved later; however, the deficiencies in active stakeholder management backfired and brought up more questions and criticism than the intended input and results. In the end the undefined future of the organization put the process on hold.

Stage 8 - Anchoring new approaches in the culture

Culture is the crucial aspect in an organizational transformation. It was tried with several approaches to turn a culture of non-performance into one of performance and customer service. A customer care programme was run with all staff members, pointing out flaws in the current cul-

ture and bringing in new behaviour patterns. It was tried to introduce the “red-tag-system” to increase sensitivity for poor quality. Staff meetings were more outcome-based to give everybody an idea of organizational and departmental performance and to celebrate successes together. Finally the employee-of-the-week-reward was also supposed to effect a change in culture.

What worked against the emergence of a change in culture were things such as

- Resistance to change
- Lack of insight
- A heavy workload of a few key employees that locked them into “old style” modes of operation
- Skepticism amongst management with regard to changes and the doubtful attitude showing through
- An unclear picture of the way forward

In conclusion it can be stated that a properly developed and managed transformation process did not take place. A sense of urgency was established and the motivation was there. However, for a variety of reasons the desired outcome could not be reached.

The strong methodology of the Biomatrix created insecurity. As mentioned before the workshop focused on getting the idea of systems thinking across, rather than the practical use of the Biomatrix in this specific context. Therefore the organization itself was left with the task to develop and implement an action plan. This turned out to be problematic in two ways:

a) It was to be based on a (systems) theory, when there is a general resistance and skepticism towards what seems to be academic.

b) It was to be based on a framework that was comprehensible and convincing, but new to staff (and the transformation team in particular), and no one had the expertise to implement it. The process to turn linear thinkers into systems thinkers did not succeed.

Nonetheless it is a strength of the Biomatrix that it is not only a theory but it provides a methodology for influencing practice and an opportunity for integrating theory with practice.

The most profound issue was however that management could not come to an agreement on what the future of the organization should be. They could not provide leadership or the “directive therapy” required to overcome learned helplessness, i.e. assertiveness, sound governance and follow-ups (Seligman 1975; cf. also chapter 1.2 *Problem definition*). Instead of effecting change, the process only served to further entrench the status quo. It also reinforced the already preva-

lent resistance to change. CTSB still needs to find a way of dealing with what Pasmore (2001) describes as one of the challenges for organizations, namely the exploration of ways for organizations and societies to develop, realize and utilize the capabilities that are at present trapped within the people who are operating in those rigid structures.

5. Conclusion

As Mintzberg (1993: 35) stated : “After all, the day after the oil prices increased in 1973, and every day thereafter, planners rose at more or less the same time, got into more or less the same cars with more or less the same four-cycle engines they have driven for half a century (perhaps occasionally having to line up to fill them with gasoline), turned on their radios to more or less the same stations, and took themselves to work in more or less the same kinds of places (unless, of course, they were fired by managers who felt that planning would be of less help rather than more under such “turbulent” conditions).”

Mintzberg is critical of the process by which planning is constantly done as if it implies that something has been done about a complex situation. “For if the sky is really falling, as Chicken Little warned, then someone had better do something about it” (1993: 36). If an organization is clearly focused on its vision or in the case of CTSB, its purpose, then the organization has the flexibility and it becomes robust enough to deal with the unexpected.

CTSB still has a long way to go to become a sustainable business with a welfare ideal. The new CEO, who comes from a business environment, will face the challenge to integrate all the loose ends and to build a purpose-driven organization that can deliver on creating sustainable well-ness for blind and visually impaired people.

Goshal and Bartlett (2005: 182) use the following allegory to describe the “traumatic experience” (cf. Dostal 2005) of a transformation: “The metaphor of a caterpillar transforming into a butterfly may be romantic, but the experience is an unpleasant one for the caterpillar. In the process of transformation, it goes blind, its legs fall off and its body is torn apart, as beautiful wings emerge.” The authors state that the most daunting challenge for leaders today is to have the courage to lead the renewal process. To develop the regenerative capacity, leaders must be able to overcome the need to stay as you are and to break down the forces of inertia.

In the case of CTSB, members of the Board, managers and staff seem to be blind to the fact that the segment they are serving is fast disappearing. Leaders need to challenge conventional wis-dom, question the data behind present knowledge and combine their expertise to create new capabilities that will serve to regenerate the organization. Goshal and Bartlett (2005) described a process of corporate renewal which:

⇒ starts with simplification where the performance of each unit is strengthened,
⇒ then it integrates activities across business units by leveraging individual resources and capturing opportunities for the benefit of the organization.
⇒ From there the organization should replenish and renew itself.

Based on their expansive experience of organizational renewal, the authors describe one of the hardest challenges for an organization that has worked through the simplification and integration process to maintain momentum by freeing themselves of conventional wisdom from the past and to renew from within. This is a major challenge for CTSB on all levels of organizational governance. Even the Board tends to choose to remain with the conventional wisdom of the past, thus limiting the opportunities for revitalization of the Society.

A few critical pre-conditions are essential before any transformational process can be implemented:

1) An in-depth diagnosis of the talent available to sustain the components of the organization in such a way that it can drive the organization. Goshal and Bartlett (2005: 133) stated that renewal in an organization "can be built on the bedrock of people who are willing to personal initiative and to cooperate with one another…" They state that "the most vital requirement for revitalizing businesses is to rejuvenate the people" (2005: 134).

2) Competent leadership that could unite a talented team to achieve purposeful action.

Goshal and Bartlett (2005: 161) stated that a model of corporate transformation rests on the simple recognition that any organization's performance is dependent on two core capabilities, namely:

- The strength of each of its components' units, and
- The effectiveness of their integration

In the case of CTSB, the Biomatrix can only serve as a highly effective model if there is leadership and talent that can implement the actions required to strengthen the components, and to effectively integrate the process to achieve long-term sustainability. Self-renewal for CTSB requires that the organization will free itself from the embedded practices and the ethos of non-performance, and to develop the ability to regenerate itself from within.

The thesis at hand was guided by the question

How can a change management process be designed that will create a fundamental change at CTSB turning it into a sustainable organization aiming at creating wellness for its constituents?

The Biomatrix, a modern systems approach, was chosen as the most integrative approach to organizational change in an effort to cope best with the challenges facing CTSB. The approach looks at the organization as a system evolving over time, not mechanistically (i.e. unfreeze the pattern and refreeze the new, changed pattern or freezing the system to analyze it) but in consideration of the dynamic environment where “pluralism and manysidedness [is] the order rather than uniformity and single directedness” (Gustavson 2001: 20). The Biomatrix serves as a roadmap for viewing a system in a comprehensive, multi-dimensional way, allowing a detailed analysis without losing sight of the larger whole. The integration of other view points, as pointed out in the analysis above, has highlighted perspectives from different angles in addition to the Biomatrix.

Looking back at the research question of how the change management process can be designed, a final answer cannot be given, as change is not an event, it is an ongoing process. Action plans and step-by-step lists to organize the change process are very seductive and were often asked and looked for by the transformation team. The trap of becoming mechanistic, using linear ways of thinking is always luring, especially in an old-established organization such as CTSB. The project served to highlight the complexity of integrating a non-profit system with workable business models in order to become a viable entity system that achieves sustainable wellness for VIPs.

What came out in the analysis is that before one can start planning a transformation or implementing any of the recommended actions, clarity needs to be obtained as to what the future of the organization will be. This picture then needs a guiding coalition of leaders that is willing to invest time and energy to pursue this future. As long as that is not there the organization will be deprived of an exhilarating future.

Kemmis (2001) describes the process of action research as a process of self-education for the practitioner that may help others to see things more clearly. The process therefore includes a variety of self-reflective periods which implies that researchers are actually gaining an understanding about themselves as much as gaining an understanding of the organization under study. They become the subject of a change process almost as much as they change the outcomes of the process within the organization. This certainly happened in my case!

References

Ackhoff, R.L. (1994). The Democratic Corporation. New York: Oxford University Press.

Arbnor, I., Bjerke, B. (1997). Methodology for Creating Business Knowledge. 2nd ed. Thousand Oaks, California: SAGE Publications.

Argyris, C. (1985). Strategy, change and defensive routines. New York: Harper Business.

Argyris, C. (1993). Knowledge for Action. A guide to overcoming barriers to organizational change. San Francisco: Jossey-Bass Publishers.

Banister, P., Burman, E., Parker, I., Taylor, M. and Tindall, C. (1994). Qualitative Methods in Psychology. A research guide. Buckingham: Open University Press.

Bridges, W., and Bridges, S. (2000). Leading Transition: A New Model for Change. Leader to Leader. 16 (Spring 2000): 30-36.

Butler, R.J., Wilson, D.C. (1990). Managing voluntary and non-profit organizations. London: Routledge.

Cameron, K.S. (2003). Organizational Virtuousness and Performance. IN: Cameron, K.S., Dutton, J.E., Quinn, R.E. (eds.), Positive Organizational Scholarship. San Francisco: Berrett-Koehler Publishers.

Checkland, P., Scholes, J. (1990). Soft systems methodology in action. Chichester: John Wiley & Sons.

Cloete, A. (1999). The Biomatrix Model: The development and formalisation of a general systems model. PhD, Department of Biomedical Engineering, University of Cape Town, Cape Town, South Africa.

Cloete, A., Jaros, G. (1994). Teleonic: A model of goal-directed living processes. IN: Brady, B., Peeno, L. (eds.), New systems thinking and action for a new century. Louisville, Kentucky, USA: International Society for the Systems Sciences. 1425-1436.

Dostal, E. (1997). Application of the biomatrix model to education systems design – with special reference to South Africa. PhD thesis, Department of Biomedical Engineering, University of Cape Town, Cape Town, South Africa.

Dostal, E. (2005), Biomatrix: A Systems Approach to Organisational and Societal Change, 3rd ed. Cape Town: Copyright © Elisabeth Dostal.

Dostal, E., Jaros, G. (1994a). Applying the Biomatrix theory to the governance of societies. IN: Brady, B., Peeno, L. (eds.), New systems thinking and action for a new century. Louisville, Kentucky, USA: International Society for the Systems Sciences. 1213-1220.

Dostal, E., Jaros, G. (1994b). The teleonics view of a matrix organization. IN: Brady, B., Peeno, L. (eds.), New systems thinking and action for a new century. Louisville, Kentucky, USA: International Society for the Systems Sciences. 981‑990.

Drucker, P.F. (1990). Managing the non-profit organization. Oxford: Butterworth-Heinemann.

Gharajedaghi, J. in collaboration with R.L. Ackhoff (1986). A prologue to national development planning. Westport, Connecticut: Greenwood Press Inc.

Ghoshal, S., Bartlett, C. A. (2005). Building behavioral context: A blueprint for corporate renewal. IN: Burkenshaw J. & Piramal, G., Sumantra Ghoshal on Management. A force for good. England: FT Prentice Hall (Chapter 7).

Gratton, L. (2000). Living Strategy. London: Pearson Education.

Gratton, L. (2004). The Democratic Enterprise. London: Pearson Education.

Gustavsen, B. (2004). Theory and Practice: the Mediating Discourse. IN: Reason, P., Bradbury, H. (eds.) (2001). Handbook of Action Research. London: SAGE Publications. pg. 17-26.

Hammer, M., Champy, J. (1993). Reengineering the Corporation. London: Nicholas Brealey Publishing.

Handy, C. (1989). The Age of Unreason. London: Arrow Books.

Hart, S.L., Sharma, S. (2004). Engaging fringe stakeholder for competitive imagination. IN: Academy of Management Executive, Vol. 18, No. 1. pg. 7-18

Hock, D. (1999). Birth of the Chaordic Age. San Francisco: Berrett-Koehler Publishers Inc.

Jaros, G., Cloete, A. (1987). Biomatrix: the web of life. World Futures, 23: 215‑236.

Jaros, G., Cloete, A. (1990). The Biomatrix: The web of purposeful processes or teleons. IN: Koizumi, T., Lasker, G.E. (eds.), Advances in Education and Human Development. Part II: Social Systems Processes. Windsor, Ontario, Canada: International Institute for Advanced Studies in Systems Research and Cybernetics. 124-133.

Key, J.P. (1997). Research Design in Occupational Education. Module R14 Qualitative Research. Internet WWW page URL: http://www.okstate.edu/ag/agedcm4h/academic/aged5980a/5980/newpage21.htm (version current as of 25.03.2006)

Kotter, J. P. (1996). Leading Change. Boston: Harvard Business School Press.

Mayrhofer, W. (2004). Social Systems Theory as Theoretical Framework for Human Resource Management – Benediction or Curse? IN: Management Review, vol. 15, issue 2, 2004. pg. 178-191.

McMillan, E. (2004). Complexity, Organizations and Change. London: Routledge.

Merriam, S.B. (1998). Qualitative Research and Case Study Applications in Education. San Francisco: Jossey-Bass Publishers.

Mintzberg, H. (1993). The pitfalls of strategic planning. IN: California Management Review, No. 36, pg. 32-47.

Mintzberg, H. (2004). Managers not MBAs. London: Pearson Education.

Mintzberg, H., Ahlstrand, B., Lampel, J. (1998). Strategy Safari. London: Pearson Education.

Mintzberg, H., Waters, J.A. (1989). Of strategies, deliberate and emergent. IN: Asch, D., Bowman, C. (eds.), Readings in Strategic Management. London: Macmillan Education.

Morgan, G. (1986). Images of Organization. Newbury Park: Sage Publications.

Pascale, R., Millemann, M.,Gioja, L. (2000). Surfing the edge of chaos. New York: Three Rivers Press.

Pasmore, W. (2001). Action Research in the Workplace: the Socio-technical Perspective. IN: Reason, P., Bradbury, H. (eds.) (2001). Handbook of Action Research. London: SAGE Publications. pg. 38-47.

Seligman, M.E.P. (1975). Helplessness. San Francisco: W.H. Freeman.

Senge P. et al. (2004). Presence. Human Purpose and the Field of the Future. Cambridge, MA/USA: The Society for Organizational Learning.

Senge, P. (1990). The fifth discipline. New York: Doubleday.

Senge, P. et al. (1994). The Fifth Discipline Fieldbook. New York: Double Day.

Stacey, R.D. (1996). Complexity and Creativity in Organizations. San Francisco: Berrett-Koehler Publishers.

Stacey, R.D. (1996). Complexity and Creativity in Organizations. San Francisco: Berrett-Koehler Publishers.

Stake, R.E. (1995). The Art of Case Study Research. Thousand Oaks, California: SAGE Publications.

Strümpfer, D. (1993). Fie on ‘survival of the fittest’: A humane view of people in organizations. IN: Manganyi, N.C., Marais, H.C., Mauer, K.F., Prinsloo, R.J. (eds.), A dissident among patriots. Pretoria: Centre for Science Development.

Strunk, G., Schiffinger, M., Mayrhofer, W. (2004). Lost in transition? Complexity in Organizational Behaviours - The Contributions of Systems Theories. IN: Management Review, vol. 15, issue 4, 2004, A72 pg. 481-509.

Berichte der Werkstatt für Organisations- und Personalforschung e.V.:

01. **Weller, I./Steffen, E. 2000:** Ergebnisse einer Mitarbeiterbefragung bei der Lynx Consulting Group/Bielefeld. Berlin.

02. **Bendel, K. 2000:** Zufriedenheit von Nutzerinnen und Nutzern mit ambulanten Pflegedienstleistungen. Forschungsbericht. Berlin.

03. **Bendel, K./Matiaske, W./Schramm, F./Weller, I. 2000:** „Kundenzufriedenheit" bei ambulanten Pflegedienstleistern. Bestandsaufnahme und Vorschläge für ein stresstheoretisch fundiertes Messinstrument. Berlin.

04. **Holtmann, D./Matiaske, W./Möllenhoff, D./Weller, I. 2001:** Leistungsbeurteilung im öffentlichen Dienst. Zur Validierung des Leistungsbeurteilungs- und -bewertungssystems LBB-SYS. Berlin.

05. **Martin, A./Purwin, J. 2001:** Soziale Fähigkeiten in Arbeitsgruppen. Eine empirische Studie zur Ermittlung der Kooperationsfähigkeit. Berlin.

06. **Weller, I. 2001:** Fluktuationsneigung und Commitment. Eine empirische Betrachtung bei F&E-Mitarbeitern. Berlin.

07. **Matiaske, W./Holtmann, D./Weller, I. 2002:** Anforderungen an Spitzenführungskräfte. Retrospektive und Perspektive: Eine empirische Untersuchung. Berlin.

08. **Jütte, W./Matiaske, W. 2002:** Regionale Weiterbildungsnetzwerke. Eine exemplarische Analyse. Berlin.

09. **Holtmann, D./Matiaske, W./Weller, I. 2002:** Transparenz und Kommunikation als Erfolgsfaktoren von Leistungsbeurteilungen im öffentlichen Dienst. Vorstellung eines Forschungsprojektes. Berlin.

10. **Erbel, C. 2003:** Personalmanagement, Mitarbeiterverhalten und Kundenzufriedenheit im Dienstleistungskontakt. Eine empirische Analyse. Berlin.

11. **Weller, I./Matiaske, W. 2003:** Gütekriterien und faktorielle Struktur des IMC-Gitters zur Messung von Leistungs-, Macht- und Anschlussmotiven. Berlin.

12. **Schlese, M./Schramm, F. 2004:** Beschäftigungsbedingungen in der Gebäudereinigung – eine Analyse des Sozioökonomischen Panels. Berlin.

13. **Schramm, F./Zeitlhöfler, I. 2004:** Personalpolitik an Hochschulen. Eine Studie anhand der HWP – Hamburger Universität für Wirtschaft und Politik. Berlin.

14. **Bekmeier-Feuerhahn, S./Eichenlaub, A. 2004:** Ein Markenzeichen für die Universität: Wie kann die Identität der Universität in einem Bild verdichtet werden? Berlin.

15. **Schlese, M./Schramm, F. 2004:** Implikationen der Tarifverträge zur Leiharbeit für die Tarif- und Beschäftigungsbedingungen im Gebäudereiniger-Handwerk. Berlin.

16. **Weller, I./Matiaske, W. 2008:** Gütekriterien einer deutschsprachigen Version der Mini Markers zur Erfassung der „Big Five". Berlin.

17. **Anke Wigger 2008:** Managing organizational change - Application of the Biomatrix theory to the transformation of a non-profit organization